Be creative

IMPROVE YOUR
3D

Every issue of 3D Creative is packed with helpful Tutorials & Making Of's and professional advice for all levels of 3D artists. So come on in and find the help you are looking for...

ARTICLES
Real Time Studios' CrackDown, Grantville & the Stardust Pepsi Commercials

INTERVIEWS
Pascal Blanche & Khalid Al-Muharraqi

GALLERIES
Stefan Morrell, André P. J. Cantarel, Kapsel & More!

MAKING OF'S
Tiny – Battle of the Planets, Knocked Out & Flower Messenger

TUTORIALS
Tuc Tuc, Framing a Subject & the Complete Guide to Lighting - Texturing Basics

EDITORIAL

Well, I suppose issue 20 is a miniature milestone for us; if anything it's a reason to go for a drink after work! But, then again, do we even need a reason? 3DCreative is now constantly hitting the 150+ page total, so we are utterly exhausted and deserve a rest... but there's no chance! I am going to over work the staff here until they drop! (That last sentence was just to test to see if they are even reading this part.) We need you to give us as much feedback as possible in the coming months so that we can continue to provide you with as high quality a magazine as possible. For those of you who think it won't make a lot of difference, check out the 'Challenge' section of this mag. This was purely in response to readers asking for competitions and challenges, but better then the odd multiple choice questions we used to give. These challenges give you the opportunity to win great prizes, whilst improving your skills, meeting other like-minded 3D'ers and generally having some fun. We have had some great entries and already given away thousands of dollars worth of prizes. Also, the top entries get featured in this very magazine... that's the 3D equivalent of a grammy (or at least some kind of daytime soap award anyway). Anyway, enough drivel from me. Enjoy this latest mag and we hope we give you the motivation to get involved too. Ed.

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What's in This Month:

CONTRIBUTING ARTISTS

Every month, many creatives and artists around the world contribute to 3DCreative Magazine. Here you can read all about them. If you would like to be a part of 3DCreative or 2DArtist Magazines, please contact ben@ zoopublishing

TUC-TUC

Tuc Tuc Tutorial Artists. These wonderful people are responsible for translating our 3DSMax content for Cinema 4D, Lightwave, Maya & Softimage XSi. Most of them have been with us since the joan of Arc series, and also worked on the highly popular Swordmaster Series.
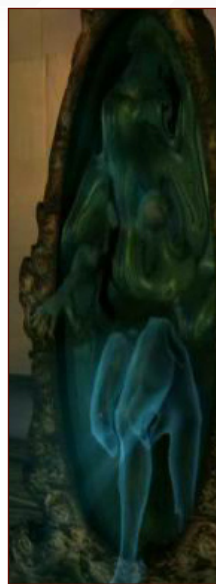
BOGDAN HORDUNA

Is a 3D VFX Artist, in Iasi, Romania. He started back in '99 with 3D Studio Max, but in 2000 trained in Maya. He has been a Modeller and Texturer for a few 3D animated movies games, and is also a Modeller, Dynamics & Particles, Lights & Render Supervisor for many commercials, music videos and industrial presentations.

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LUCIANO IURINO

Started back in '94 with 3DStudio on MS-Dos as a Modeler/Texture Artist. In 2001, he co-founded PM Studios and still works there as Lead 3D Artist. They recently developed the videogame "ETROM – The Astral Essence". He also works freelance for magazines, web-portals, GFX & videogame companies. He recently left the 3DS Max environment to move on to XSI.

iuri@pmstudios.it
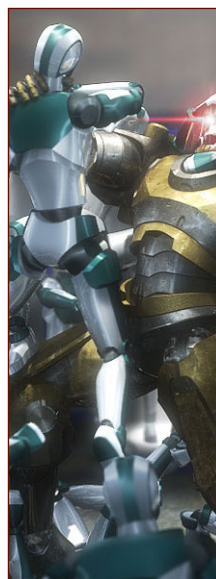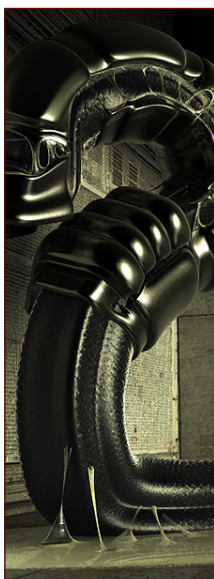
GIUSEPPE GUGLIELMUCCI

Is a Freelance 3D Modeller/Animator. He began using computers with the epoch of the vic20 & Cinema4d was his 1st 3D software. He started working in the field of CG in 1999 in Commercial Design. In '03 he worked on "ETROM - The Astral Essence", an RPG video-game for PC, developed by PMstudios. He currently hopes to work in the video-games industry & develop his own game.

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NIKI BARTUCCI

Is a Freelance 3D Modeler, in Italy. She started working in the field of Computer Graphics in 2000 as an Illustrator & Web Designer. In 2003 she started using 3D software, such as C4D & 3DS Max. In that year she worked on "ETROM - The Astral Essence", an RPG video-game for PC, developed by PMstudios. She is currently a freelancer, specialising in commercials.

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ROMAN KESSLER

Is a Freelance 3D Artist, in Germany. In '93 he made his 1st 3D model, using a shareware 3D software for DOS that was very limited. He got addicted & started with Lightwave in '97. Since 2005 he has worked professionally as a Freelancer. He likes all 3D tasks equally, with little preference to modelling and texturing. Besides client-based work, he also works on personal animation projects.

www.dough-cgi.de

GUILLAUME OSPITAL

Is a 3D Modeller/FX Artist, at Antefilms Studio, in Angouleme, France. He started in CGI with 3D Studio Max 4 when he was a student, and leter switched to Softimage XSI. He currently works as an FX Artist & 3D Modeller on several animated series ("Code Lyoko", "The Fantastic Four", etc.). He looks forward to working within the video game industry.

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CESAR ALEJANDRO MONTERO OROZCO

Is a 3D Artist & Computer Engineer, in Zapopan Jalisco, Mexico. He believes in the balance in life, and all of its aspects. He appreciates his health above anything else. His career goal is to tell compelling stories using CG in feature films.

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EUGENIO GARCIA

(a.k.a. Artecnl) is a Freelance CG Illustrator, in Monterrey, Mexico. He started in 3D two years ago with LightWave 3S 7.5 - self-taught. He graduated as a Graphic Designer from the Facultad de Artes Visuales U.A.N.L., and hopes to soon get a job in the illustration business.

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ZIWEN ZHANG

Came from a computer engineering background and has been doing 3D for 2 and a half years. He's currently working in Electronic Arts, in Montreal, as a Modeller. Besides his working title, he would like to be a Digital Sculptor and Scenery Creator. The road is long and he still has tonnes to learn, yet he has the confidence to achieve more in the near future.

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KHALID ABDULLA AL-MUHARRAQI

My mission is to get the world to change to the better and to make it a happier and more colorful environment for us all. Things will not change until we try to change them. We are the future and the time has come to step up and become it. Art has no skin or religion or belief. It should always be beautiful and that is what I aim for.

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www.muharraqi-studios.com
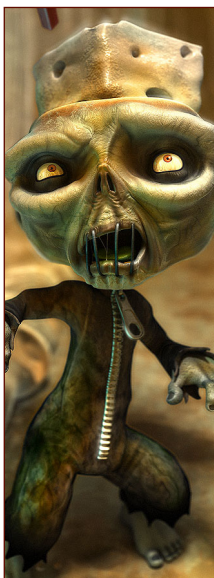
WOULD YOU LIKE TO CONTRIBUTE TO 3DCREATIVE OR 2DARTIST MAGAZINE?

We are always looking for tutorial artists, gallery submissions, potential interviewees, making of writers and more. For more information, send a link to your work here: warin@zoopublishing.com

PASCAL BLANCHÉ

"A PASSION IS SOMETHING
YOU SHOULD ENJOY, NOT
BECOME SLAVE OF..."

Incredible artist and proud father of two boys,

Pascal talks exclusively to 3DCreative Magazine

about his passions and inspirations...

PASCAL BLANCHE

Hi, Thanks for Talking to us. What got you into 3D?

Hi! Well, I first wanted to be an illustrator when I was young, drawing comics and monsters, but the paper was kind of boring for me because it didn't convey enough life (and I was not that good with a pencil). Later on, it was movies like Star Wars, Dark crystal and Ray which started to influence me when I was a teenager. I discovered 3D pretty late in my art education, but soon totally understood the full power of CG (Darth Vader speaking ;-). With just one tool, I could draw, sculpt, animate, do whatever they do in movies just like that in my bedroom. it was an amazing sensation of freedom for me.

What keeps you in 3D?

Maybe the same reasons that got me there in the first place, to me it is the most appropriate tool for my visions. It is also a process I know now pretty well from the idea to the final touch ups in photoshop. I continue to refine better production pipelines to get better quality and faster execution.
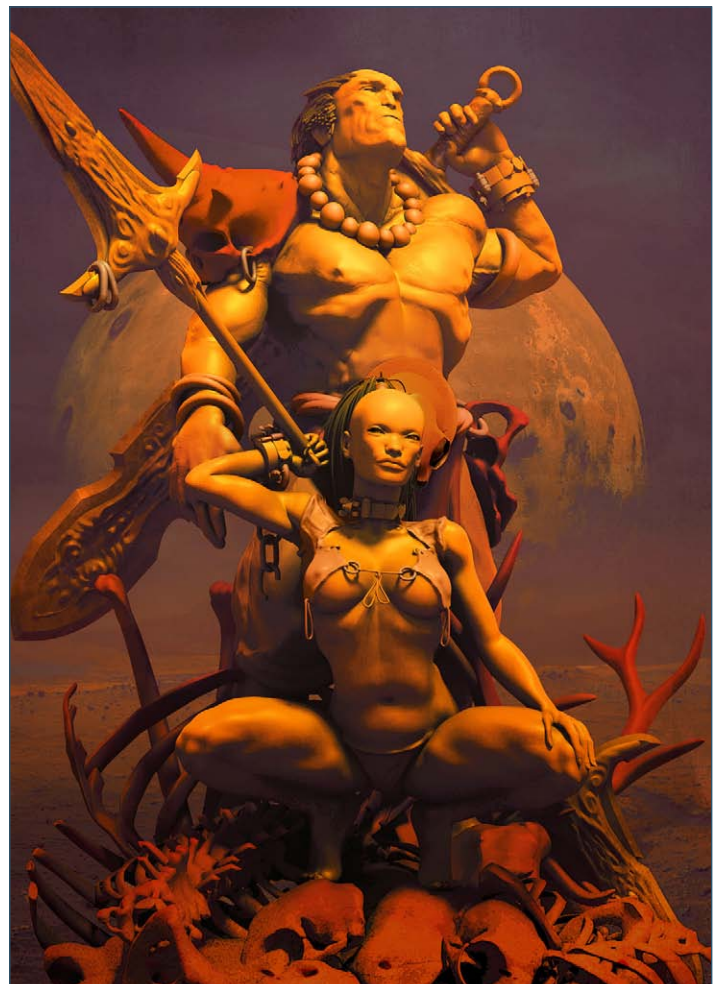
You list your inspirations on your website, which I think is something everyone should do. It just shows the importance of inspiration…
Inspiration is everything, yes! Of course, from time to time I get ideas of my own, but I do have to dig a bit. I will certainly always pick up many references that give me the ideas. I read a lot. Books, comic books, mangas, artbooks, and I watch lots of movies too. Music can also become a very handy source of inspiration

What is your art mainly used for?

So far, I would say mainly covers for 3D magazines. I'm starting to get more contacts for covers of books, however, 3D is still not something that people are used to seeing in the same light as classic or digital 2D illustrations.

You have an extensive portfolio, where on earth do you find the time? (As we hear you are now the proud father of 2 boys ;-)

Ahah thanks ;) actually my second boy is only a few days old, and I have stopped all my production work for a while to concentrate on my little family. Taking breaks from time to time is very important during the creative process. I usually work on my personal illustrations at night, betwen 10 and 1 in the morning, three nights a week. All I do during this time is focus on results instead of details. I like to work on all aspects of a picture: composition, structure, theme, energy, and usually go as fast as I can directly to a posed and framed model. This way I can achieve a good quality in for work, and keep the creativity energy till the final touch up. I create each illustration in about three to five nights.

All of you work has a similar theme, but not necessarily a similar style, why is this?

The main reason is that I like to experiment a bit. There is no reason why I should stick to one style or another for now. Even if there are some common elements here and there that I like to continue to play with, visually I feel like I can improve my style a lot..

What has been your favourite project so far?

Each project has it's good and bad points. I like to be challenged in my work, and I dont like being too restricted, visually speaking. The last commission I created for Autodesk was really fun and motivating , because they were the first to ask for my personal touch!

What would be a dream project for the future?
I have many dream projects. I'd like to create a graphic novel, work as independant illustrator, start a 3D model collection and work on an Artbook. My main dream would be to get the chance to work for someone who would totally support my creativity and let me experiment with all my visions. But I bet I'm not the first or the last to dream about that!

Do you have one piece of advice for any aspiring artists out there?

I always give the same answer when asked this question: work hard, focus on finishing what you've started and learn from your own experiences. The more you practice, the better you will become.. Oh.. and of course, manage your free time: go outside, have fun, read , go to movies, and don't stay put behind your computer too much :) A passion is something you should enjoy, not become slave of.

Thanks very much for talking to us, Good luck for the future.

youre! welcome, it was my pleasure :)

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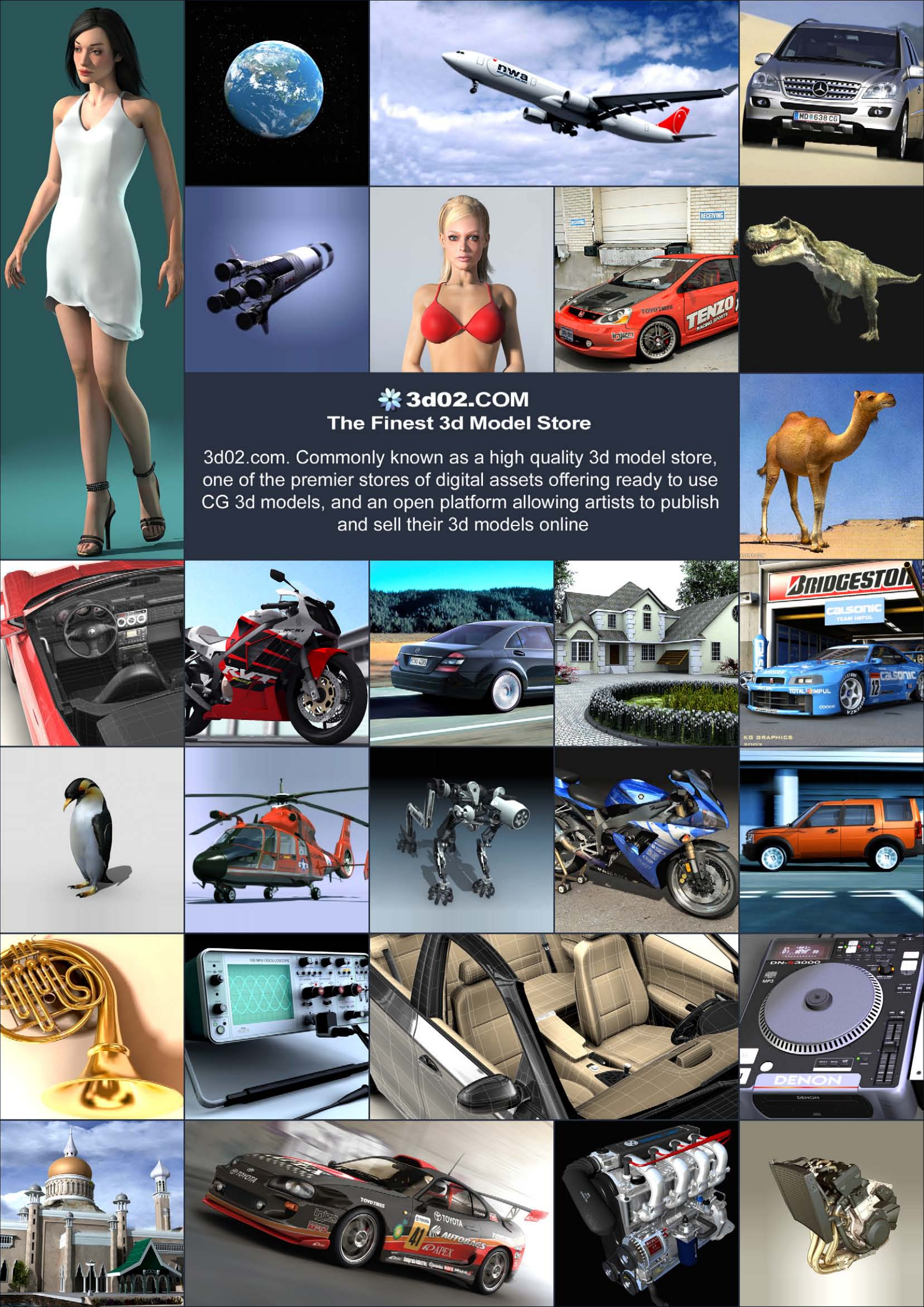**The Finest 3d Model Store**

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Khalid al Muharraqi

"THERE'S ALWAYS NEW MOUNTAINS TO CONQUER, NEW SHORES TO REACH, NEW PLANETS TO DISCOVER & ALL THAT GIVES ME SATISFACTION."

In only 2 years, Khalid has co-founded a highly successful creative studio, which has worked on some of the biggest projects in the world... Literally!...

Khalid al Muharraqi

Hi Khalid, It's great to talk to you again, I think we first crossed paths when you were creating promotional images for 3DTotal, a lot has happened since then!

Oh yes, I remember that time well and it was great fun working with you. Both of us have grown a lot since then!! 3Dtotal now has all these new fun products that help the community and your team continues to be great to us!!

©Muharraqi-Studios

Muharraqi Studios is a fairly young studio, but you have been creating art for a long time?

Yes, we're young in the market, but have been through a lot in the last 2 years from artistic creativity to supporting the community and finally to the development of the industry. On the other hand, I have been around art for a long time as I was born into an artistic family and studied art in college.

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Most of your work seems to be split between characters and architectural visualization, do you prefer either?

AH!! Simply put, one is my bread and butter while the other is more of the Future and where we want to be heading towards. I would like to have the time to do more of the creative work (although the architecture is creative art itself), but it is not something that I have been too interested in, to consider it my kind of art. That is why I am putting together a few nice images with stories and ideas to be able to develop my gallery and move towards more of that kind of work. This also introduces the other things that Muharraqi-Studios does and is capable of doing.

You recently helped visualize the Durrat Al-Bahrain project (which can be see on google earth and looks spectacular). What was that like being involved in such a huge project?

When I first started I didn't really know what 'big' really meant. To me it was all about putting together the models, finding solutions around the weaknesses in the software and hardware, and how to make it work. It was only when I got deep into the project and finalized the deliverables that I realized the scale of it and it was great fun!! Since then, we have done a number of large projects and I am used to it now!

And now you have plans for creating the whole of Bahrain in 3D for future developments?

Actually, the map is finished. I'm always working on refining it so we are trying to get all the latest data to plug into the map. We had the idea to build it when we were working with SOM Chicago to help them visualize the future of Bahrain. Their plans are meant to guide the growth of the Kingdom for the next hundred years, so I'm proud to say that I was part of that. We are now looking at creating other cities in 3D!

One of your 'motto's' is "We do not want to be busy, we want to be the best"… how important is the quality of your work compared to how much money you earn?

I guess you can say that we have an attitude at the studio and are picky about what we do. It's just that we have spent years where clients have been picky about who to choose to do their jobs and it's nice to have the shoe on the other foot. I would say that we are at a position to choose the jobs that fit our style at M-Studios and that could be the designs & concepts, the location, the name, attitude, or finally the money ;). The list of jobs we have rejected in the last 2 years far exceeds the jobs that we have taken on board.

What new challenges do you look forward to each day?

I love to learn new things and that is why sites like 3dtotal and the various CG magazines that are out there are so important. They give me more info and help me investigate. I love to test software's, plug-ins, new hardware and tools; it is just amazing for me how fast the industry is moving. I also keep updated on all the latest games on all the consoles as I consider Games to be like movies. It refreshes me to see all the effort that comes out from the many teams of artists.

If we followed you around for a day, what would we learn?

Not sure what you would learn from me other then I am in love with my work. My stress is part of my relaxation. I think I am dedicated, I take pride in what I do, I like to do the right thing and respect everyone who deserves it. I try to do what I can to help make things better for all of us.

Looking back, which of the projects you have
worked on have given you the most:

Personal satisfaction?
I couldn't really tell. You see, any project I
do I learn a lot from and there's always new
mountains to conquer, new shores to reach,
new planets to discover and all that gives me
satisfaction.

Stress?

Oh!! All my clients are stress! When the clock starts ticking and there is someone waiting for it to happen, it is very stressful for me. Clients think that just because you are using a computer and 3D applications, this automatically means that it should be finished faster then usual. So it gets a bit stressful to educate clients all the time, I must say that some of them are very understanding by the end of it.
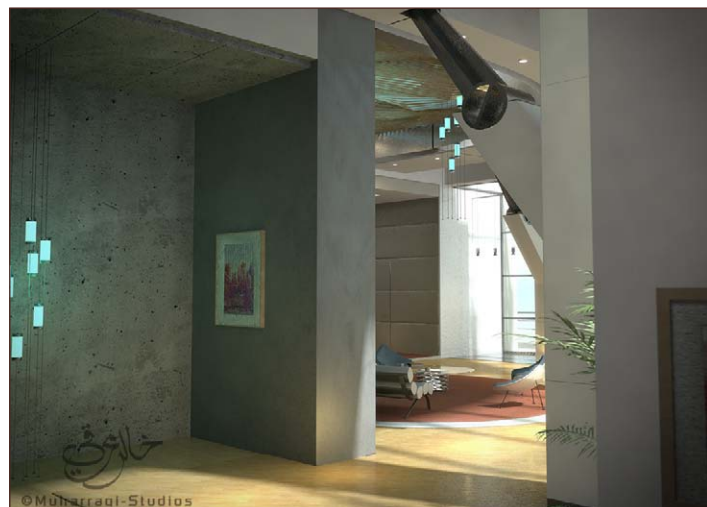
Artistic Freedom?

Well, there are two types of clients. One is the type that says; "Do what ever you think will work. We believe in you." Others that would say; "No no no this is the right way." When, we end at a dead end. Then they would say; "Oh!! Do what you think will make it work." I believe that freedom is good, but your client needs to always be sure of what he wants. For example, when you help someone choose what clothes to buy, you will tell them what you feel looks better design wise, but if they don't tell you that they don't like Black it doesn't matter how good it looks on them, so this goes to any job you need to do for someone that did not think about what they really need.

Do you have one piece of advice for any aspiring studio founders?

Yes!! First I would say that I still haven't achieved anything in my opinion. Well, not to the level that I would like to be at. As for advice, I would say, just follow your dreams, and make sure that it is your dreams !!! Don't stop, Just go for it! Be careful who you take advice from, who ever gives you the advice has to be worthy of critiquing you. Not only should they have the knowledge, but have proven themselves as someone the community looks up to, and finally they should actually get paid ;). This will be effective to help you keep your moral up and continue on the right path

Image by Muharraqi-Studios©

Thanks very much for talking to us, Good luck for the future.

KHALID AL MUHARRAQI

For more work by this artist please visit

www.muharraqi-studios.com

Or contact him at

Khalid@muharraqi-studios.com

Interviewed By :

Ben Barnes

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— *Sam Cole, FUEL*

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Describe the initial impetus behind Crackdown and the key stages through the games evolution.

Billy Thomson – Lead Designer: The original concept came from Dave Jones; he wanted to create a truly free-form mission structure, set within a large open world, where the player would take the role of a crime-fighting hero who would progress physically and become more adept in their use of equipment and vehicles as they played through the game. It sounds really simple when you put it like that, but it
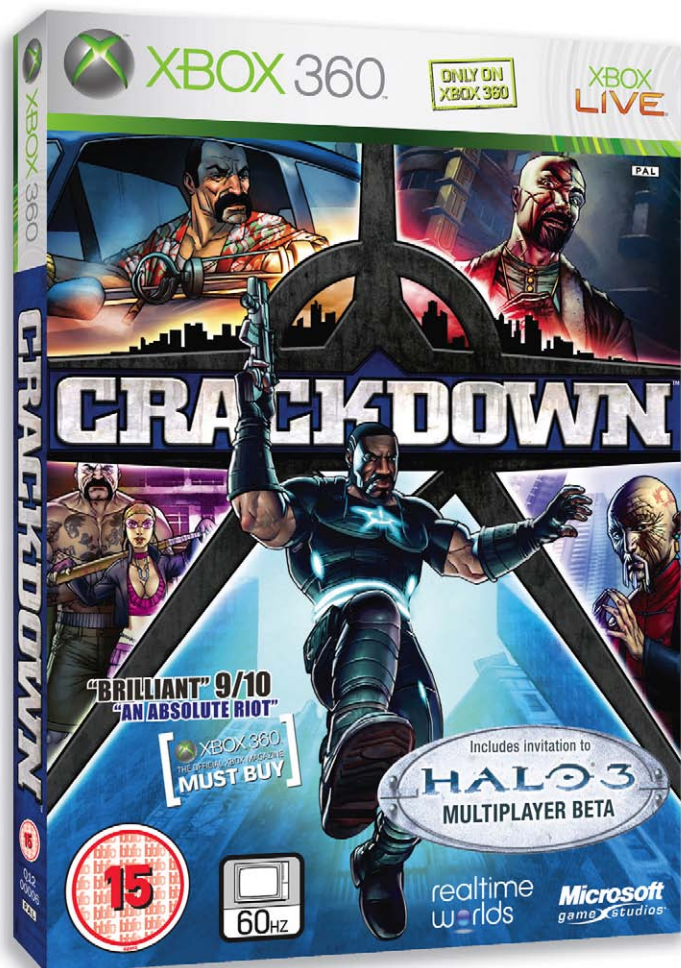
took four years of hard work to make it a reality. Phil does a great job of detailing the different stages of development later on in this Q&A, so to avoid saying the same thing twice I'll talk about the areas that I felt were really important, or helpful, on our journey through the different stages of development. Staying true to your original design goals is something that is difficult, but incredibly important. I'm not saying you should never deviate from your original vision, but it is crucial to remain focused on what it was that excited you - and just as important, the publisher - from the original concept. The key goals for me on Crackdown were solid intuitive controls which are easy enough for a beginner to pick up, but have enough depth to really reward players who master the more advanced controls. A truly free form experience with no boundaries and no locked doors - you go where you want to from day one. In terms of character progression - a set of key skills that the player can advance as they play through the game - the key goal was to reward the player for performing actions they enjoyed doing, rather than forcing them to perform tedious tasks to advance their skillset. A well-rounded player character that can perform all of the actions you expect to - jump into the air, grab any ledge, pick up any object, drive any vehicle, fire any weapon - and then when you get this right increase all of the abilities to the point of making the player feel like a Super hero! At the end of the day, that's what we really wanted from Crackdown, to truly make the player feel empowered whilst they play, and I honestly believe we delivered on that goal in leaps and bounds. We have done our best to stay true to those goals, and it was only when

we reached the stage of having a build that was solid, with a high frame rate and as much final content as possible, that we could really start to find out if we had made the right or wrong decisions. Our first taste of real feedback came in the form of Microsoft's Usertest team. The Usertest team essentially pull gamers off the street, sit them down with the game and fire questions at them as they play. The Usertest labs have the ability to video the gamers hands as they play and sync this to footage of the game as they play it, accompanied by audio of all questions and answers. Each gamer is also given a Q&A sheet that they must fill in, and based on the answers the game is given final scores in different areas of the game.

I can't tell you just how useful this was to the development of the game; many areas where we thought the game was perfect were found to be confusing, and other areas where we thought we still had a lot of work to do were found to be perfectly controllable and easily understood. This was the stage where the game really started to come together; our initial set of results from the Usertest labs had really low scores across the board, so we basically knew there was a great game in there, but actually opening it up in an easily digestible way to a new player was where we were struggling. A few months later, and after many, many tweaks, additions, cuts and we had gone through Usertest again, we came out with very high scores - some of which were higher than any other game they had ever tested! After we got through Usertest, and were happy with how the game was received by new players, we set about finishing the game properly; getting the frame rate up to a stable 30 fps, and fixing all of our bugs - which is no easy task when you consider how much is going on at any time in Crackdown. Once we were making good progress with this we started to think about creating a demo that we could

CRACKDOWN

release via Marketplace. We knew that we would need to get a great demo out there for the public to play in order to generate the kind of buzz that would get Crackdown noticed, but the main objective of the demo was to get the game into the hands of the gamers. We knew that once the game was there for everyone to download and play we would be in good shape, as Crackdown is one of those games that can never really be done justice in screenshots or videos, you really need to sit down and play it, that's when the magic really starts to happen with this game.

Tell us a little about the graphical appearance of the game and the reasoning behind the stylisation.

Jeff Cairns – Art Director: When we talked about the concept and sheer scale of Crackdown, it became abundantly clear that we needed to make the game's styling as over the top as the action. Everything we talked about was 'turned up to 11' so a world of drab grey and brown tenement buildings didn't seem to be the best way to stage this. It was obvious to us from the start that the best reference point for this type of game already existed in comics and graphic novels which, despite having a variety of visual styles, all have the same fundamentals in common: they aim to depict a mixture of great drama and intense action in every page and often with an exaggerated palette that accentuates it all, which has turned into an extremely unique and compelling look for Crackdown.

What have been the most notable challenges from an artistic viewpoint?

Jeff Cairns – Art Director: Well, when you do a game as ambitious and expansive as Crackdown, *everything* is a challenge for the Artists - in all areas of departments. Looking back though, there are a few significant issues that came up that dominated all other challenges for us. Firstly, we knew from the off that we would need to render hundreds of assets off into the distance, viewable from insane heights and never dropping noticeably below 30 fps. As with all consoles, the XBOX 360 has finite capacity and power and we would never be able to go wild with detailed materials and geometry like other smaller games could afford, so the first challenge we faced was to come up with a style that would embrace this, as well as complementing the type of game we were making. I think we were lucky in that it was clear the 'graphic novel' approach was the best option all-round. I never knew at this stage just how difficult this would be to achieve though, in terms of balancing the lighting and colouring of the game, to make sure that all shaders and materials worked correctly at all times of day. This was our second and most significant challenge, and the early builds we were putting out showed that we were having difficulty getting this right. New assets (and graphics tech. for that matter)

were coming along all the time and we had to balance and re-balance things constantly - bolting new lighting features in along the way to resolve some emergent problem or other. In the end the lighting system became unwieldy and hypersensitive so it was only when development on all other graphics tech. tailed off that we managed to get it to settle down and balance correctly. In Ireland, we would call this 'trouser haemorrhage time'. After this, the biggest challenges we had were down to the Agency character and vehicle development. Both had to transform physically from one level to
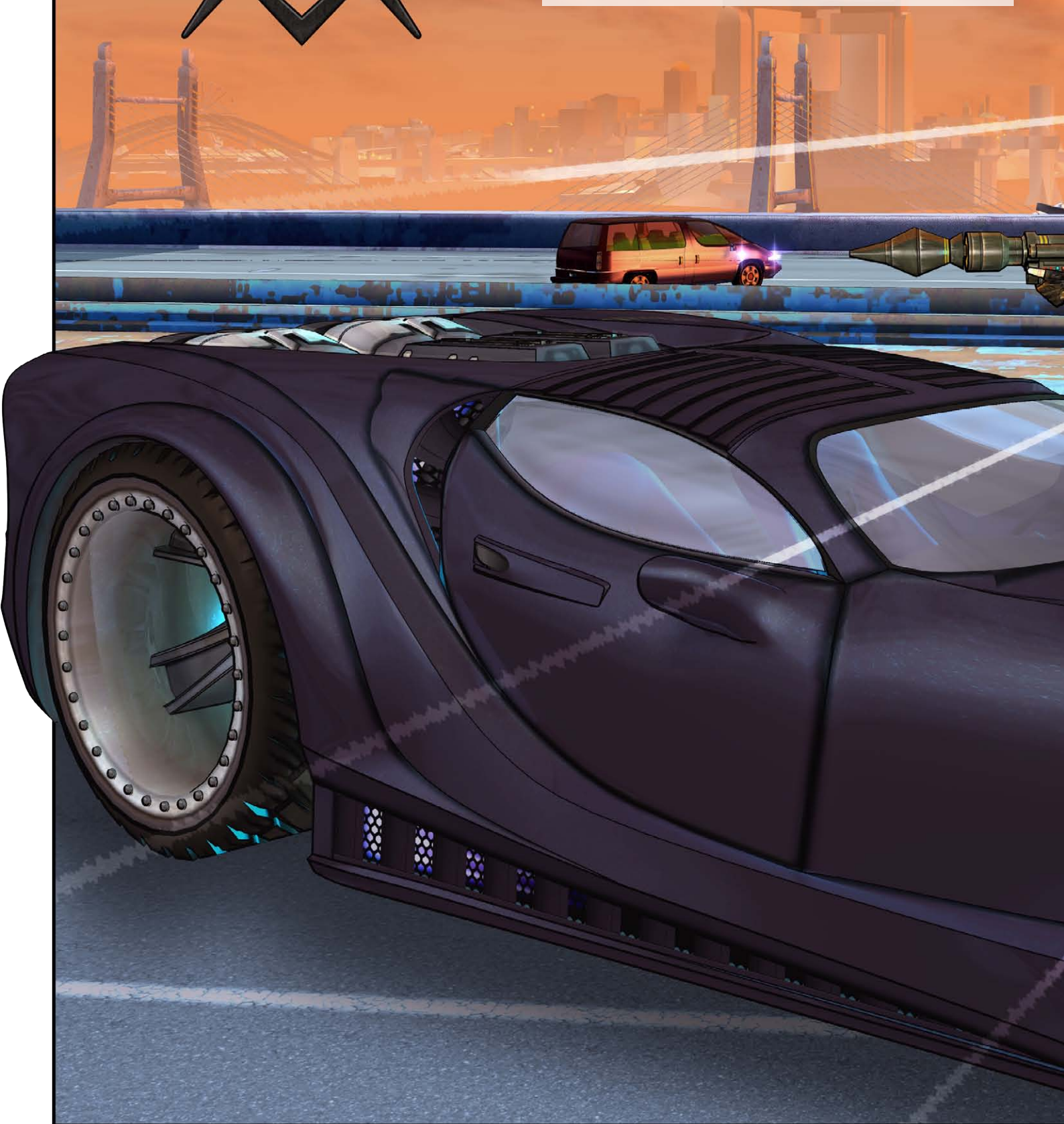
another and this became a real headache for us. The main problem with both was that we needed to make every level exciting with the level five assets being completely hard-core, and also make sure there was a significant change from one level to another. In both cases we made concepts for all levels, and in both cases when we built them initially we discovered that we never went 'crazy' enough for the level 5 assets, and these had to become level 3 with two new levels bolted on. This was somewhat costly, but inevitable I think, and the later assets went a lot more smoothly.
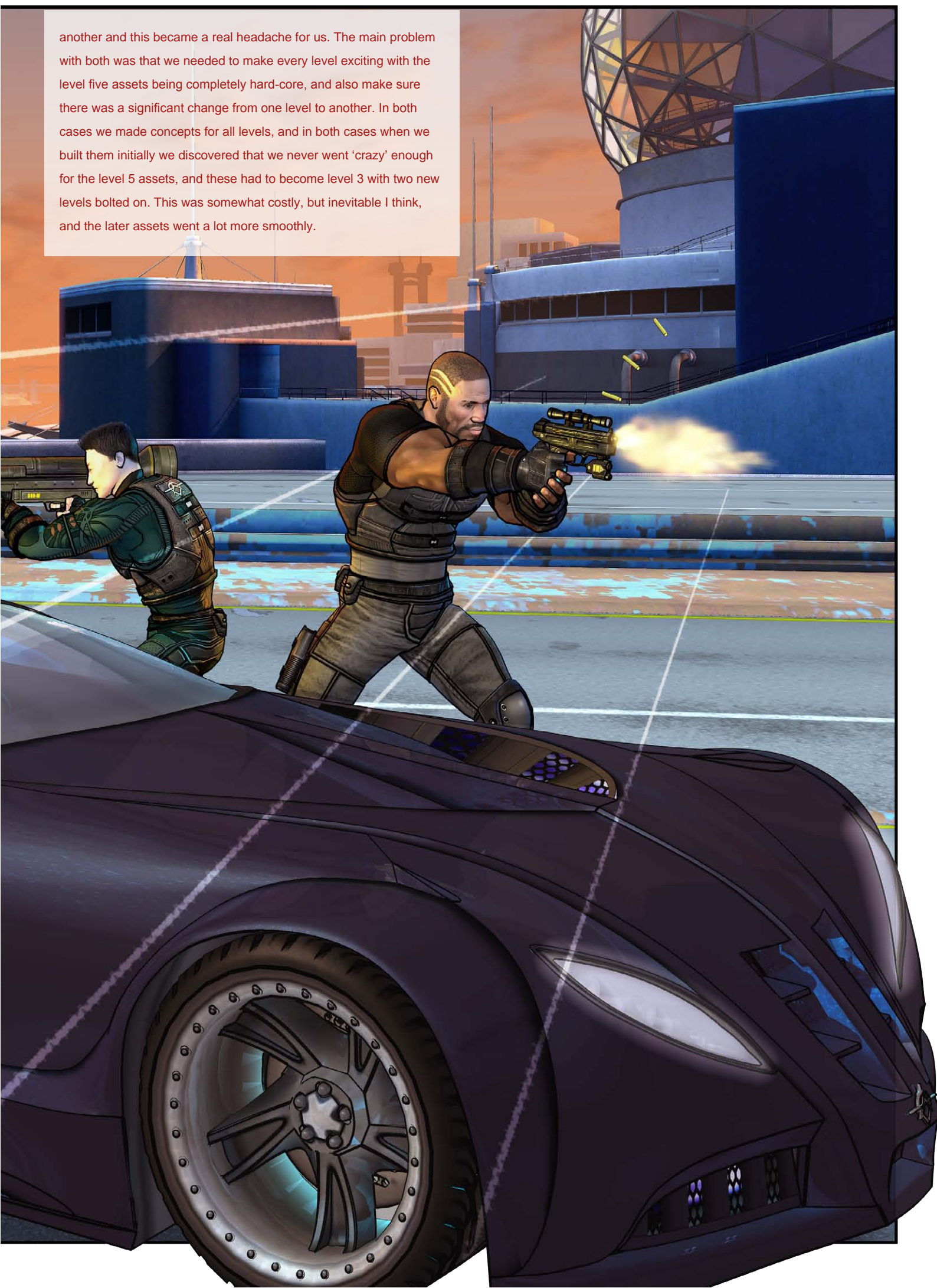
The characters had the added complexity that we needed to show development of both agility and strength, and these could happen in any order, according to the way the player approached his character development. This was a nightmare in the beginning, given the number of potential variants we could end up having to make if we weren't careful. In the end though, our Characters Lead cleverly separated these skills so that the chest plate and body size would increase only with strength, and the underlying body suit would change with agility. This worked a treat for us in the end, I think. Added to this we had to make our animations develop with the different skill levels and allow the player to accurately access new parts of the world whilst still interacting correctly with all other objects in the game... but even thinking about all this is starting to make my hands tremble and my brow sweat, so we'll leave it there I think. Suffice is to say I think it all worked out in the end and we have a unique looking game and some fantastic experience now that we can draw upon moving forward. The fact that, as a result, I now resemble John Merrick's fat, older brother is just the price you have to pay!

What are you most proud of about Crackdown?

Phil Wilson – Producer: I think there's a lot for us to be proud of in Crackdown, and perhaps that's the first thing I should call out: the sheer breadth of content spanning multiple genres. Right from the first concept design this game was always incredibly ambitious. Though a few of the lower level features did hit the cutting room floor before we shipped, we never wavered on those initial high level goals. It was certainly extremely difficult creating, for example, a full interactive environment that pushed the boundaries of complexity - streaming, verticality, interactivity and, of course, population - not to mention managing it for an uncompromising online co-op mode. The fact that those goals were all nailed in such a spectacular fashion - in some cases exceeding even our loftiest expectations - makes me particularly proud of this team.
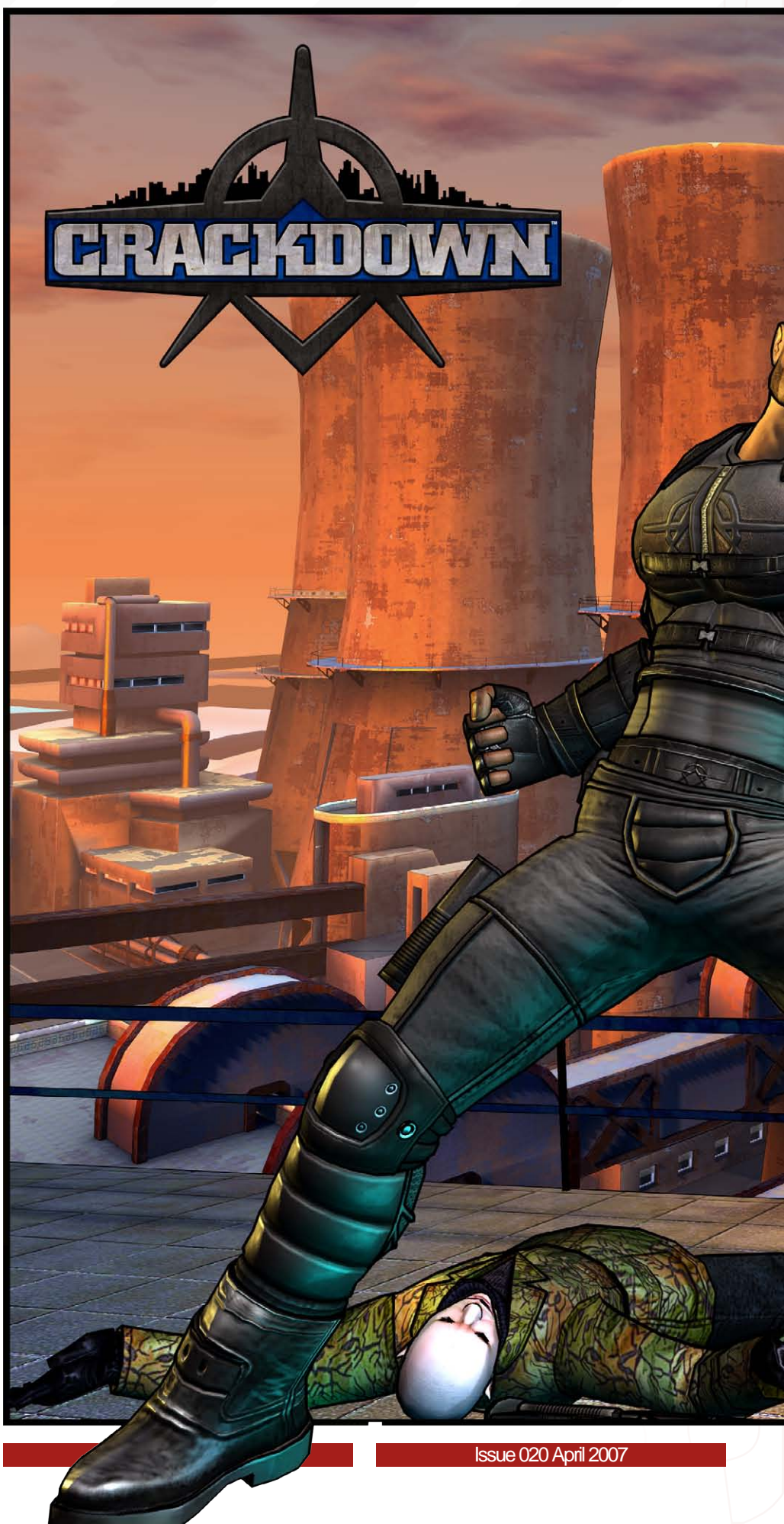
Could you give us a brief account of the procedures involved in making a game like Crackdown from conception through to appearing on the shelves ?

Phil Wilson – Producer: Well, as I've already mentioned, it all begins with the initial concept. It's scary that several million pounds are invested on such a brief and early statement of intent, and so striking that balance between 'exciting' and 'achievable' in this initial 'creative contract' can often be the greatest project risk. We were fortunate though in that Microsoft had approached Realtime Worlds, and specifically Dave Jones, to literally 'go for gold'; to call on our wide-ranging experience with the urban sandbox title, turn it on its head, and knock it out of the park. So that early ambition was scary (particularly for me) but it certainly helped knowing Microsoft had our collective back and was so committed to delivering a stunning end product. The design phase ensued, and the documentation quickly mounted as the devil was found in as much detail as possible. As we went

along, and wherever possible, candidate features were quickly prototyped in an off-the-shelf game engine. Some rocked and some sucked; invariably it was impossible to call beforehand - hence the value of prototyping. Over three and a half years ago the initial prototype demo of Crackdown (though it had a different name then) was complete. In fact we were checking it out for old times sake last week, and it's great to see how close it is to the finished game. Skill development, a vertical city, the unique targeting system, and many other experimental features were all proven at that point. As a whole it was playable… just. But it was a fragile illusion of a game; it had no foundations and so, having proven that Crackdown was a game that needed to be made, the whole thing had to be torn down and planned properly in full. Pre-Production began with 'real deal' development. Complex underlying systems needed to be architected, though back then even we had no idea that the finished product would consist of over 2M lines of code! Meanwhile, those proven features had to

be thrashed out in full; for example, we now knew it was fun to leap between rooftops and grab protrusions, but it also needed to look convincing, and feel good. The player had incredible air control and could influence the direction, distance and speed of a jump after launch, so we couldn't just play a straightforward 'jump' animation, as might have been the case for a typical platformer. In fact, the list of required specifications for the area of Character Actions alone was a giant task in itself, and as a result Pre-Production ran for over a year. We held off as long as we could before staffing up to our eventual maximum team size of 70, because when that happens the cost of development (and of course mistakes) increases exponentially. However, the transition to full Production was a gradual one, simply because some areas were ready before others and, when you're starting to call out a project completion window, the sooner we can have more than one gun in the supply point, more than one vehicle in the garage, and more than one character everywhere the player turns the

better! Post Production is never long enough… ever. Even knowing this, even planning for as much time as possible, it always gets partially consumed as we attempt to plough in as many last minute 'must haves' as possible. Post Production should be more sacred, but that's easier said than done. It's the time when content and features are locked, and that all-important polishing can happen. In truth we did apply a reasonable amount of time to Post Production on Crackdown and it was almost exactly enough… almost! The final stage, Release Phase, is relatively short - about three weeks in the case of Crackdown. All assets and code are locked; nothing changes without approval from a committee that meets daily, eventually twice daily. In the final days, changes are limited to two or three per release candidate, until eventually a candidate is good enough to ship to XBOX Certification and hopefully make it through without failure. Given Crackdown went to 'Cert' on December 21st I can't tell you how relieved we all were that it passed with flying colours!

Could you describe the key roles within the art department and the tasks associated with team?

Jeff Cairns – Art Director: The art team was split into four departments: Animation, Characters, Environments and Vehicles. Each had a Lead and I, as Art Director, was in charge of all of these. Our Lead Animator also doubled as Art Production Manager for part of the project, whereby he would concentrate on making sure the schedules, pipelines, processes, tools etc. were running smoothly, and this allowed me to concentrate more on creative direction. Each of the departments had Senior Artists and Artists. Senior Artists are typically the guys with more than 5 years experience and a couple of games under their belts. They'd generally be pretty versatile and capable of working in a number of different areas of the game, including exploiting the best use of graphics technology; generating the exemplar assets that define how all subsequent assets would be produced; concept work and also working on other art tasks outwith their

department, such as visual effects, HUD, UI and PR materials. Artists generally have less experience, but in the case of Crackdown we were very lucky in that they are quality Artists and picked up new stuff very quickly indeed. In the end, the four main departments remained the only departments we had throughout the game, and this actually helped to make the team perform better and the morale to stay high as there was a lot of variety for the guys to get their teeth in to as they'd have the opportunity to interact and work with developers (not only Artists) outside of their own team. We also had various externals working for us during the project, including 4 different outsourcing companies working on cutscenes, props, vehicles and LOD's for us, as well as a contractor who developed the visual effects… and this kept me very busy indeed for several months I can tell you!

One final question. What do you think is the key attribute behind a development studio that continues to thrive and produce successful titles that sell? **Phil Wilson – Producer:** Well there are some that don't mind slapping a series of big licenses on arguably the same mediocre title. It works time and time again proving, if nothing else, that the lowest common denominator can always be relied upon to make ill-informed purchasing decisions. These development studios thrive and produce successful titles that sell, but don't ask me how they sleep at night! Thankfully, Realtime Worlds is one of the studios that isn't like that… at all! Every one of us is in the business for the buzz. We all love games and, first and foremost, we want gamers to love our games. For such a new company, Crackdown was a great start, but you should see what else we've got brewing...

"ATTIK's CREATIVE TEAM CAME LOOKING FOR ORIGINAL SHORT SUBJECT CONTENT, ANYWHERE FROM 10 SECONDS TO FOUR MINUTES LONG. THIS WAS AN AMAZING OPPORTUNITY TO DO SOMETHING VERY CREATIVE AND DIFFERENT."

TOWER OF GRANTVILLE

Buck creates "Tower of Grantville" for Attik and Scion. "Tower of Grantville" is a dark short film/fairy tale which demonstrates the breadth of Buck's writing, directing and design skills. "Tower of Grantville" employs digital matte paintings and extensive 3D and 2D animation to evoke a unique style within a smoothly told story...

TOWER OF GRANTVILLE
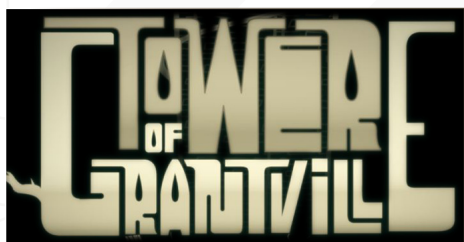
LOS ANGELES - March 5, 2007 - in what could be described as a dark dream, BUCK (www.BUCK.tv) recently completed "Tower of Grantville", a fantastically imaginative two-minute short subject animation for Scion automobiles, via global creative and brand engineering agency, ATTIK. Showcasing BUCK's complete set of writing, directing and artistic skills, the dark fable features a square-headed protagonist, his stuffed chess partner, and a race of rat like groundhogs as its principal players. The spot, and a second one created by the company entitled "Three Years", appear on-line at www.want2Bsquare.com, which went live in February in support of the release of the 2008 Scion xB, this May. "These two films from BUCK are extremely creative and wonderfully on-the-money in terms of what we wanted to present to our target audience

as part of the pre-launch campaign for the 2008 Scion xB," said Simon Needham, ATTIK Co-Founder and Group Creative Director. "Character development, back story, and art direction became especially important in this kind of short-form narrative," said Ryan Honey, Creative Director at BUCK. "We really pushed it and were determined to convey an emotional richness and depth to the story, and those are all in the details we created." Opening amidst the tall weeds of a dilapidated hill in Grantville, "Tower of Grantville" employs a Karloff-like voice-over and fairytale verse to tell the story of Gumpton, a lonely, tyrannical, square-headed tower dweller; Sleffer, Gumpton's sole (and stuffed) companion; and the noisy beasties who dwell on his lands and torture his nights with their wailing. As revealed in a 2D flashback sequence, the animals were once round-bellied and happy, but Gumpton didn't care for their happy noises. He drained the water and killed the fish, hoping they'd go away. However, much to Gumpton's dismay, the beasties stayed. "For their clients at Scion, ATTIK's creative team came looking for original short subject content, anywhere from 10 seconds to four minutes long," Honey continued. "We were ecstatic as this was an amazing opportunity

to do something very creative and different. There was no requirement to include the Scion logo or the car; ATTIK's only stipulation was that if there was a character, he had a square head, and that the website address would be the conclusion. Other than that it was up to us to build a whole new world from the ground up. We eventually developed nine concepts, and they took two of the most unusual." Heavily influenced by the works of Dr. Seuss, "Tower of Grantville" employs digital matte paintings and extensive 3D and 2D animation to evoke a unique style within a smoothly told story. BUCK was determined to use matte paintings and 2D elements to evoke an eerie depth within the story, and not rely on their considerable 3D talents. "We're used to working in a pretty much all 3D environment," said Honey. "This time, we wanted to do something really different that would showcase more of the talents of our staff. Thus, we decided to try and incorporate more digital paintings, and 2D animation that would complement the 3D character work. A big part of our creative challenge came with figuring out how to marry these techniques so that they worked visually and complemented
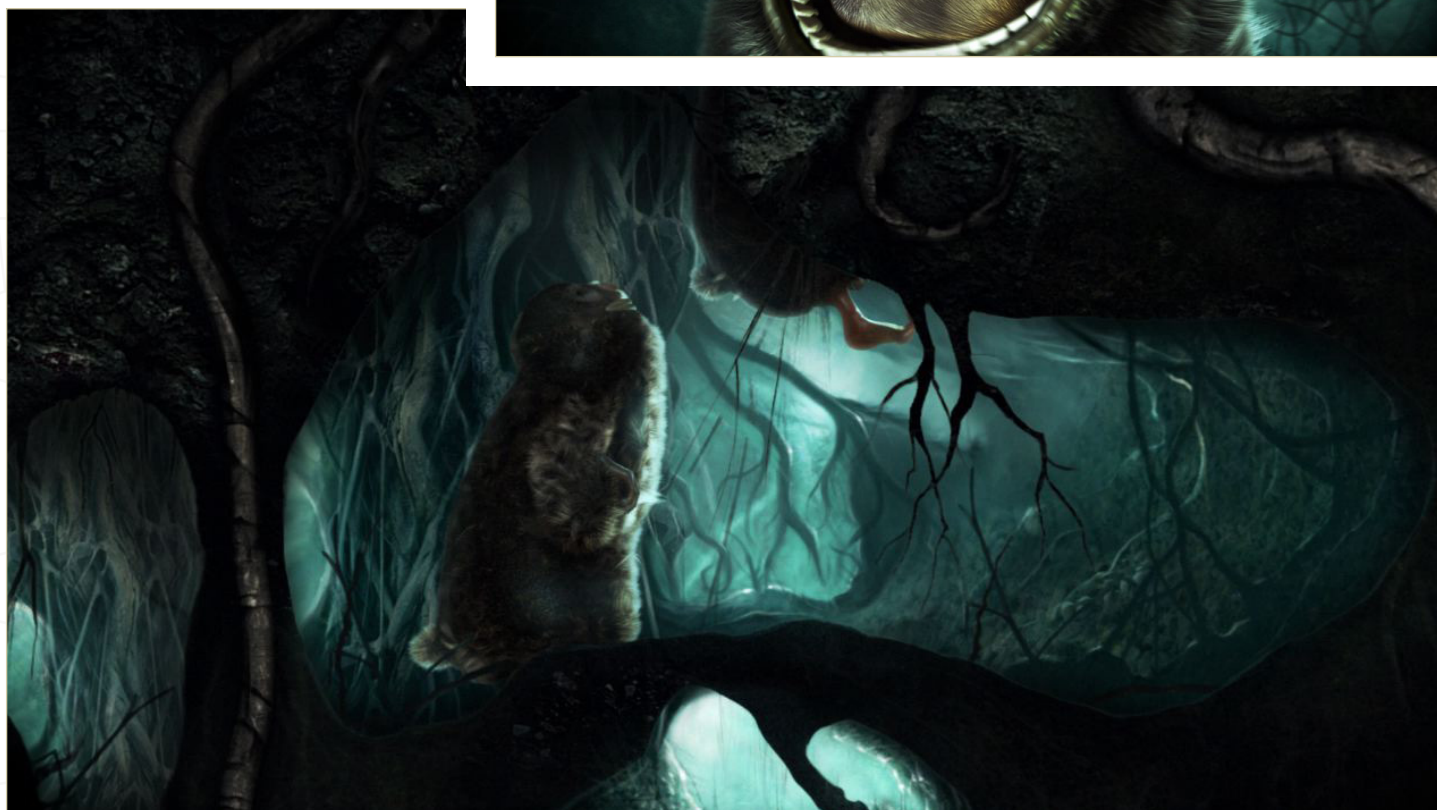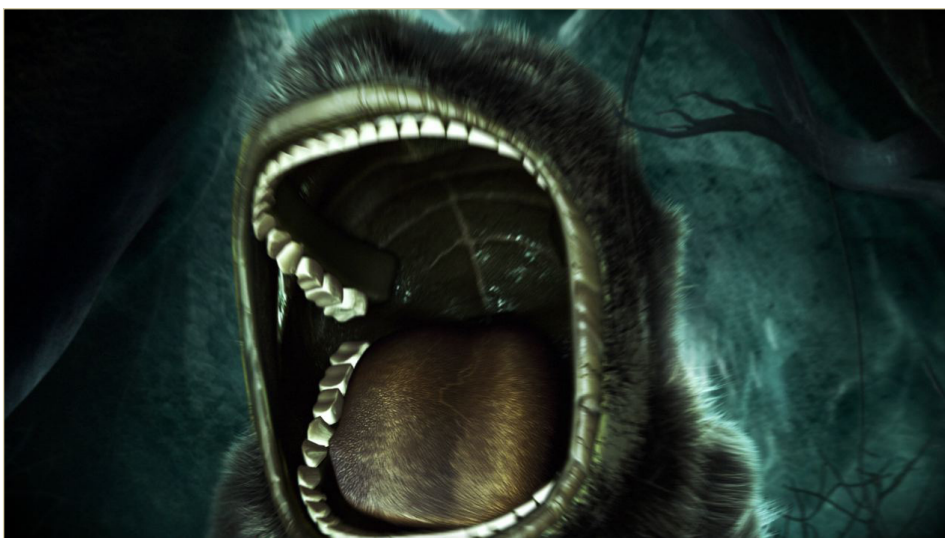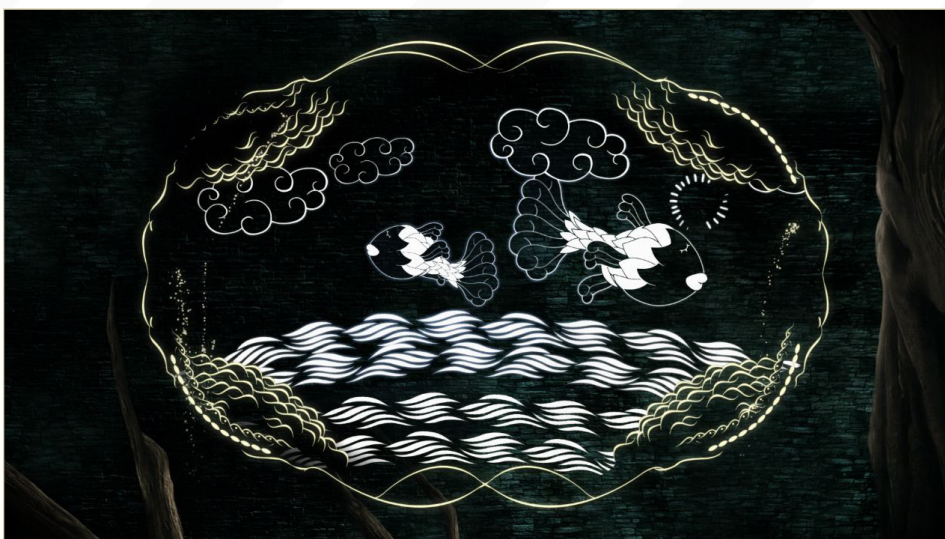
the narrative. Creating the appropriate furry look for the animals and integrating them into the scene also proved a challenge for BUCK. "We used the Shave and a Haircut plug-in to get the right look for the fur," explains Honey. "We spent a great deal of time on lighting and texturing to get it just the way we wanted. This is truly a showpiece for BUCK, and we wanted an amazing look."

BUCK

Specializing in design-driven creative, BUCK's directors and artists use animation, visual effects and live-action to collaborate with clients, from concept to delivery, producing work that is visceral, innovative, and diverse. From offices in New York and Los Angeles, BUCK works with a broad range of clients in the advertising, broadcast, retail and entertainment industries.

TOWER OF GRANTVILLE

For more information please visit:
www.buck.tv/tower
Or contact: Maurie Enochson, Buck EP
www.buck.tv tel: (213) 623-0111

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Stardust Studios designs and delivers for BBDO, New York's new "More Happy" PEPSI campaign.

More Happy

More Happy

HOLLYWOOD

(Feb. 26, 2007) Bicoastal U.S. creative production company Stardust Studios today detailed its contributions to the new Pepsi "More Happy" campaign from advertising agency BBDO New York. The new spots entitled "Photo Booth" (a :30) and "China Wall," "Rims" and "Quilt Feathers" (:15s) were designed, animated and finished in-house by the artists at Stardust Studios. The new animated spots debuted on Feb. 5, and are set to continue airing nationwide over the weeks ahead. Trevor Shepard, Stardust's Santa Monica-based art director, led his fellow team members from both coasts on the project, working closely with the agency's creative team to create the fully animated spots

which star the Pepsi logo and several new can designs. In "Photobooth," Pepsi's logo disappears into a carnival photo-booth, and a strip of pictures appears. The pictures reveal elements from the new Pepsi can designs which animate kaleidoscopically, leading back to the carnival and the photo-booth. The other campaign spots from Stardust are all animated creative explorations of the design elements from the new Pepsi cans. "To me," explained Shepard, "one of the best features of the spots is the organic quality of the animation. Since the can designs were very 2D and graphic, we chose to bring the elements into a 3D world and give each one a different personality by the way they animated. The trick to making each one visually exciting was the way we combined the organic motions of the elements with some unexpected camera moves." Stardust used Maya to create the campaign's 3D elements, and Adobe After Effects for compositing. For BBDO, the project team included ECD/art director Don Schneider, creative supervisor Eric VanSkyhawk, copywriters Brent Shriver and Dara Moss, art director Sarah Nehaman and producer Annemarie Ratkovits. Stardust's

project team also included founder and creative director Jake Banks, executive producer Corey Cirillo, producer Mark Mutschler, and 3D artists Cary Janks, Elliot Blanchard, Emil Kahr Nilsson, and Christian Day. Music for these spots was composed by Chris Beatty, Thad Spencer, Richard Webowenko and Al Wolovitch at Asche & Spencer, and the final mixes were courtesy of the team at New York's Sound Lounge.

STARDUST STUDIOS

Stardust is an award-winning, full-service creative production company, specializing in motion design, animation, visual effects and live-action production. Led by founder and creative director Jake Banks, Stardust's Santa Monica and New York offices continually redefine creativity for commercial, on-air, music video and in-store presentations. Their recent work – including projects for the world's top ad agencies, brands and recording artists – has earned numerous awards and worldwide editorial exposure.

More Happy

For more information please visit

www.stardust.tv

or contact

whatup@stardust.tv

Article Courtesy : Credits

the 3DC hallenge

3DCreative Magazine introduces the new 'Challenge' Section of the mag. Every month we will run the Challenges, available for anyone to enter, for prizes and goodies from the www.3dtotal.com shop and also to get featured in this very magazine! The 3D Challenge runs in the threedy forums and the 2D challenge in the ConceptArt forums, links to which can be found inside. Here we will display the winners from the previous month's challenges...

Camels

Stylised Animal Challenge

In Association with

Stylized Animal Challenge
Camels

5TH - DIABOLOS

Welcome to the Stylized Animal Monthly Challenge. Each month we will select an animal and post some images in the Forum Thread as reference. All you have to do is to create a 3D render of this creature in a stylized / abstract / cartoon style, whilst keeping your creature instantly recognisable. We wanted to publish some content in 3DCreative Magazine on how to create stylized animals, such as you see in the many feature films and cartoon galleries. We thought this regular competition might bring in just the images / Making Of's that we need, whilst giving away great prizes and exposure. If it's a success we will start to boost the prizes up as much as possible! This month's animal was the 'Camel'. Here you can see the top 5 placed entries, as voted for by the public.

4TH - MR_LEMON

WHAT ARE WE LOOKING FOR?

Funny and humorous entries which break the animal down to its most recognisable components; emphasize these in whichever ways you think best, and render your stylized / abstract / cartoon masterpiece. The rules are pretty laid back: please submit 1 x 3D render (minor post work is OK); its up to you if you want to have a background; include some graphical elements or text on your image. Renders of the 800 pixel dimension sound about right, but the winners will be featured in 3DCreative Magazine, so if you can create some higher res images too - all the better! There will be one competition per month, with the deadline being the end of the month (GMT). For a valid entry, just make sure your final image is posted in the main competition thread before the deadline. We require the top 3 winners to submit 'Making Of' overview articles that will be shown on either 3DTotal or in 3DCreative Magazine. These need to show the stages of your creation - different elements and some brief explanation text - of why, and how, you did what you did. We will format this into some nice-looking pages to give you some great exposure, and us some quality content. Each competition will have one main thread which starts with the brief at the top. All entrants should post all WIP's, give feedback and generally laugh at the crazy ideas that are emerging each month...

Stylized Animal Challenge : Camel
Shahin.Fj - Final Image

1ST. KHALID You can read an interview with Khalid at the start of this Issue of 3DCreative!

The current challenge at the voting Stage is:

"EAGLE"

The Current Challenge taking place is:

"ANTEATER"

To join the next challenge, or to view previous, and/or current entries, please visit:

www.threedy.com

Or, for the 2D Challenge, please visit:

www.conceptart.org

Or contact:

ben@zoopublishing.com

THE MAKING OF 'Octopus'

Here are the 'Making Of' from last month's winning entrants...

1st: Authentic

CONCEPT

The idea was to make a stylized octopus. The main concept was to create an octopus in an interesting way, so I thought about playing with tentacles with the aim of making something more interesting than other competitors. I decided to modify two of the tentacles into a tie, and maybe also a moustache, to create a business-like octopus. I firstly did a very quick model in 3D, made of an adjusted primitive, to see if the idea could be interesting and understandable. For the style, I was looking for something stylized of course, with simple textures, but believable shading - if not realistic.

MODELLING

The modelling was not really complicated. I used XSI for this image and I tried to use its capabilities in terms of the history to keep consistently good control over the model.

TENTACLES

The tentacles were a good example of what can be difficult to modify if you don't plan before you start to model. I wanted a very simple style of tentacle, so there were only a few suckers on the model. I found it more stylized than putting many ones, like on a realistic octopus. So I started to model one long, straight tentacle, made from a repeated mesh. Then I added 3 modifiers: a taper to enlarge it where I wanted, a twist to direct it, and a curve deform to make the main orientation (Fig.01). I preferred to use a curve deformation, which had more control points than skinning my character, which could have been too long for a simple picture. I tried different ways to make the tie - hiding part of geometry to simulate the effect - but this didn't really work. So, I finally had to make a real tie node, which was very complicated to place in the 3D environment with the different splines (Fig.02). I had to make a longer tentacle for the tie and all of my twists, taper operators became very useful during this moment.

HEAD

The rest of the modelling wasn't so difficult. For the head, I just tried to keep a good mesh, especially around the eyes and mouth. For the eyes, I wanted something like you would see on toys or rattles. The difficulty for the mouth was having a great and expressive form, but not too deformed, so as to keep with the whole style of the picture. The head and tentacles were not linked before the last tweaks on the model, and I spent a long time matching them up. The props were very fast modelling made by deforming simple primitives. As you can see, the whole wireframe was quite simple (Fig.03).
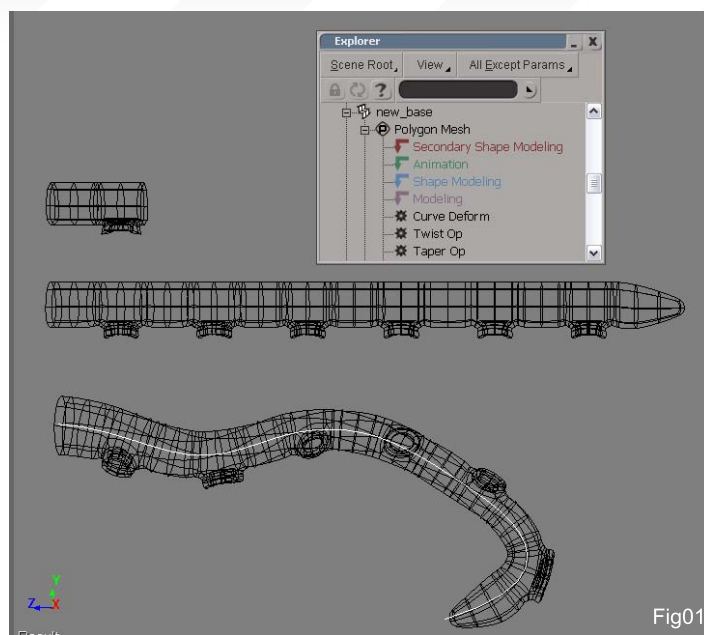
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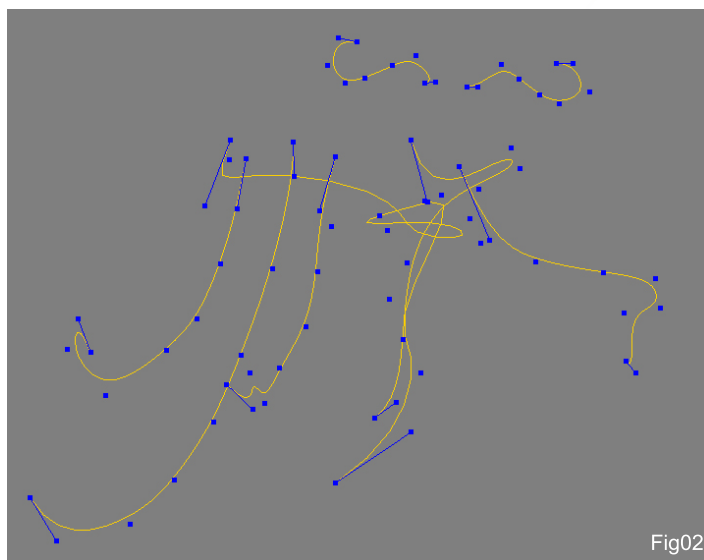
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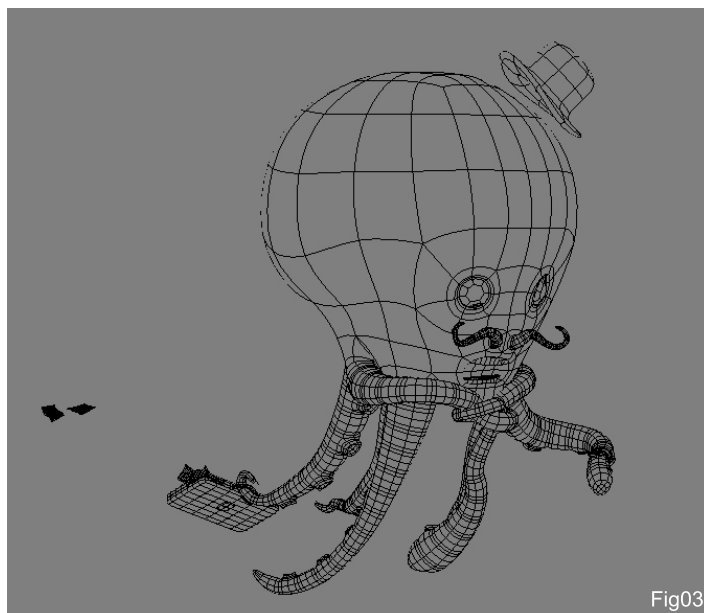
Fig03

Colour, textures & UVs

The colour texture of Mr. Octopus was very simple: some small, coloured circles in one area, with some finer details, and then that was all that was needed. I immediately thought of making a purple octopus. I find that this colour can be really useful when mixed with black, to show a business worker. Anyway, I didn't make a purple texture map, because I knew it would be simple textures. I made black and white textures which were used as a mask in XSI. I then mixed them and chose the colour inside the render tree (Fig.04). This allowed me to change some colours easily, without going back to Photoshop. Even if the texture was simple, I made it in ZBrush because I find this software very pleasant to use for this purpose. My UVs were made in XSI. For the tentacles, they had a UV from the initial base mesh used for the model, and another one all over the mesh (similar to a cylindrical one), put before the curve deform in the history. This was useful for me when making the "tie" tentacles, as you can see that they are darker, so I had to make a gradient to have a natural link with the colour of the head. I also made specific UVs by cutting some parts of the object when I wanted
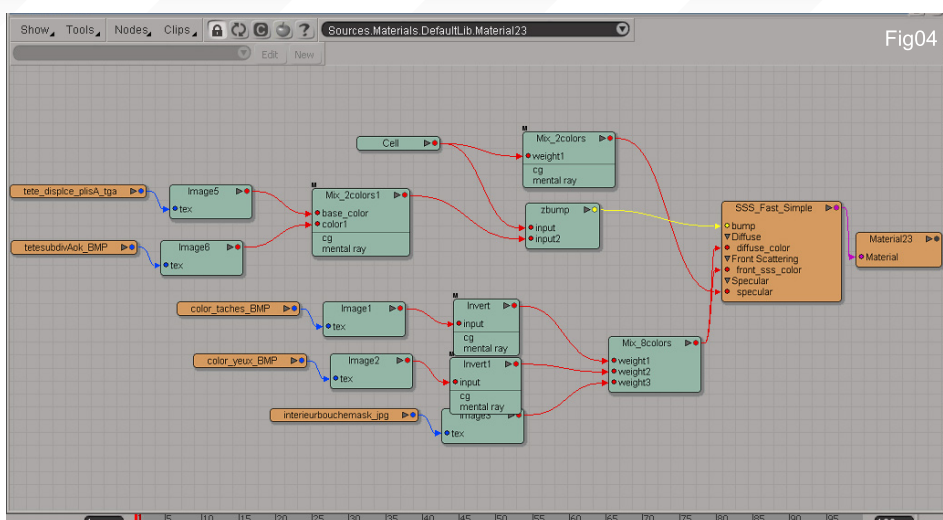
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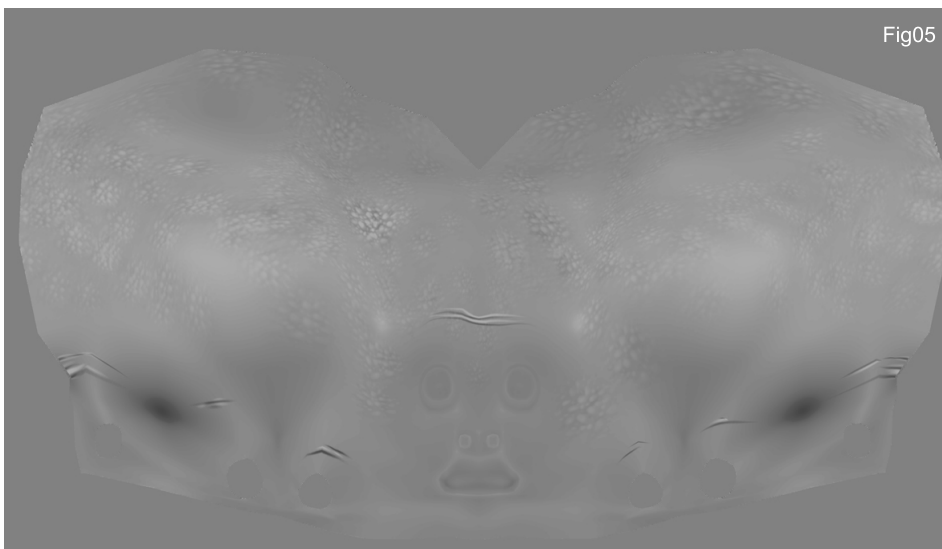
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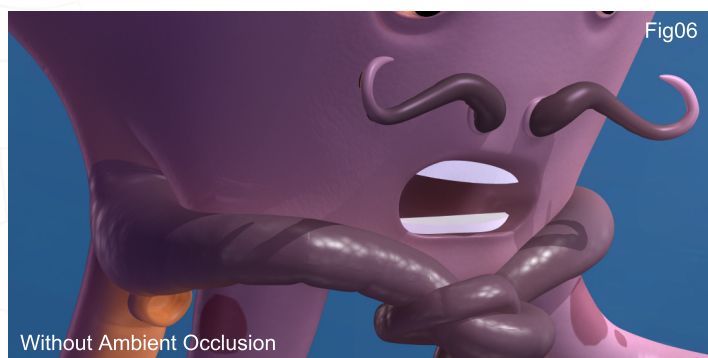
Fig06

Without Ambient Occlusion
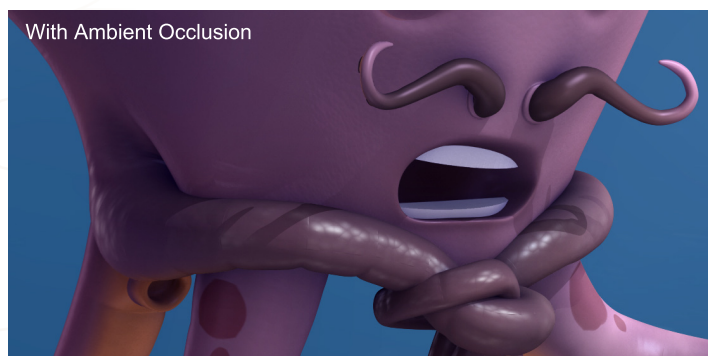
With Ambient Occlusion

to add some finer details without making very huge texture maps. There is also a mix of many different maps for bump, displace or specular. I made one complicated in ZBrush for irregularity (Fig.05), and there was also a cellular fractal in XSI. Finally, I painted some wrinkles, using bump or displacement (for the head), depending upon their weight. In terms of shading, the material is a fast SSS material. It was difficult not to use SSS with an octopus. I lowered it to keep a cartoony style. Now, re-examining the picture, I think I lowered it too much, but with the orange part beside the tentacles I was afraid to make something too luminous.

Lighting

The way I lit this scene was very… messy. I didn't achieve what I liked with a dome light that I had created, so I decided to have my main light made up of an external, textured sphere - projecting final gathering. It was one of my aims for the picture - to learn more about other ways to light a scene. There was no real Global Illumination, only FG, but I had some classic light anyway. The main light was coming from the upper right corner. Because the hat was projecting a very strong and ugly shadow, I disconnected the shadow for the hat and the black thing that you can see

was made with ambient occlusion. That's the other part of the lighting. What I achieved with my light set was correct, but as the light was coming from the side I lost a very important part of it. With an ambient occlusion pass, I achieved in having something more readable in the place, which was not affected by the main light details (Fig.06).

ENVIRONMENT

The environment was really simple. It's a very big particle system for the plankton, with turned billboards. I first made the light rays with real volume lights, but when I wanted to render it in high resolution, it was really long and ugly, so I made it in compositing instead.

COMPOSITING, TWEAKING &

Fig08

Without compo lights

With compo lights

Fig09

Fig07

Fig10
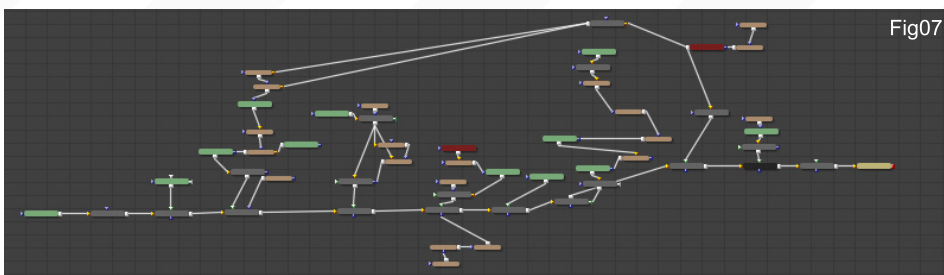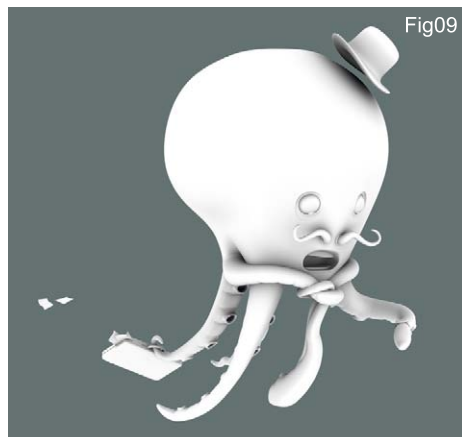
CHEATING

The compositing was a very important part of the picture. I didn't have many passes: main colour, occlusion, particles, eyes, and caustics. But, I did have many details in compositing with digital fusion details (Fig.07). The caustics were a procedural map projected onto the whole character. Because I needed it only on a small part - the arm - I masked it in compositing. The background was made in digital fusion, and is mainly a gradient with fractals and colour correction to add irregularities and a sensation of depth - but I think it could have been better. About the environment; I also had light rays in compositing, and modified the particle system with a directional blur effect to simulate the movement of the octopus. On the octopus himself, I made some adjustments. As the occlusion was rendered as pass details (Fig.08), I decided to colour it in dark blue to have a more saturated effect. I also had to re-render the eyes themselves, because they were influenced too much by the orange upon them. I also had to do some very small colour correction, and added a backlight. I first thought about making it in XSI, but, as it worked really well in compositing, I left it as it was (Fig.09). I finally went into Photoshop for a final paint over, and added the details that nobody will see, like some specular, the hour on the watch... and there you go!

AUTHENTIC (a.k.a. Vincent Guibert) For more from this artist visit:

www.vincentguibert.com Or contact: guibertv@free.fr

2nd: *Omalley*

There are many ways of modelling something in 3D. I generally like to keep things as simple as possible, and avoid unnecessary steps - in the end, the important thing is the image itself.

FIG.01 The obvious start for the octopus I had in mind was a sphere. I quickly subdivided some edges and extruded polygons to get the shape of the mouth. Just to get a feel of what it was going to look like in the end, I added a rough shape for the teeth, two little discs to place the eyes, and a scaled sphere for the tongue. I tried to keep the surface of the head as smooth as possible from the start, using a light which I moved around the mesh to spot and get rid of little bumps. At this stage, I used many deformers to modify the global shape of the head. Lattices (get > primitive > lattices) offered excellent control when tweaking my mesh, without having to deal with too many points and edges.

FIG.02 When I was happy with the main shape, I started to work on the expression and the details, giving it a less symmetrical look. For example, one of the corners of the mouth was a little higher than the other, and the glottis was bent slightly on the right, as if the octopus was laughing or screaming at the top of his lungs (this could have been further emphasised with the use of motion blur).

FIG.03 Before I started modelling the eyes themselves, I played with the two little discs, trying out different sizes, shapes and expressions to get the right look and feel.

FIG.04 I then started modelling the tentacles: a cube tweaked so that it looked like Fig. 03; Y-scaled and divided regularly. Nothing fancy here, it was simply the classic way to achieve forms that you can easily bend. The next step was to deform it with a lattice to make its end thinner. The suckers were based upon a cylinder. Again, nothing too complex, just a couple of extrusions. I knew the suckers wouldn't be showing much on the
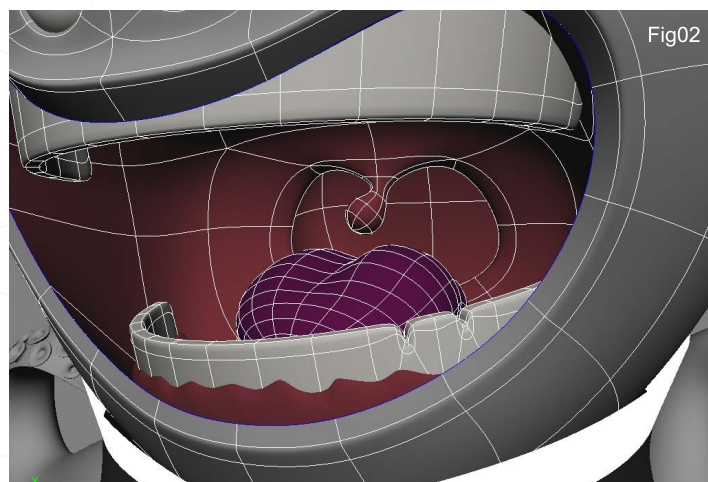
Fig01

Fig03

Fig02
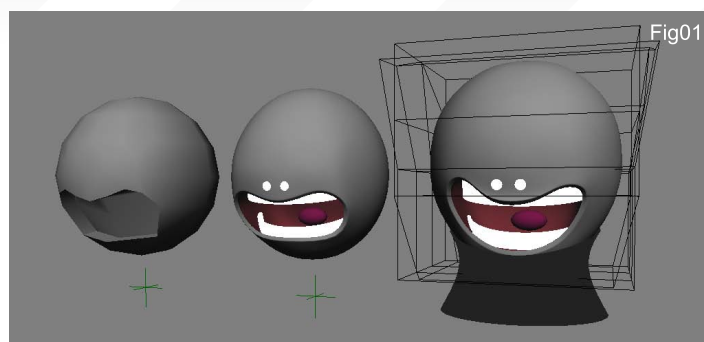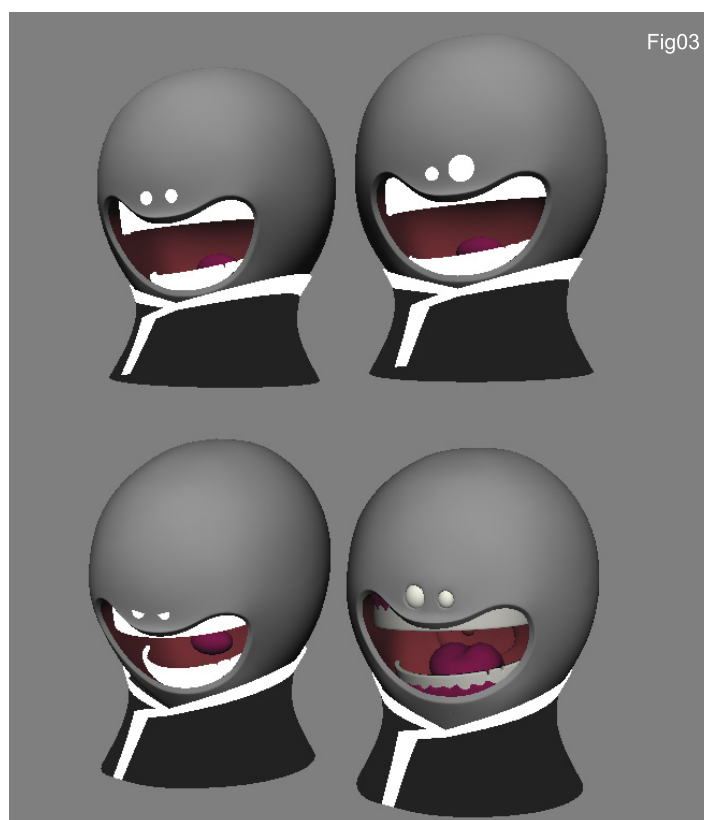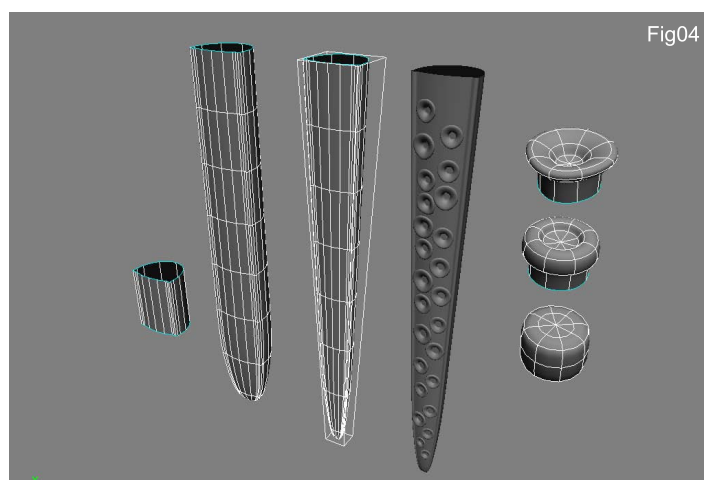
Fig04

final image, so I decided that they wouldn't be physically attached to the tentacle. Since it was not bent, yet and the suckers were independent, I just duplicated them along the arm; moving, scaling, and rotating them until I got something I liked. When it was done, I unwrap the UVs.

Fig06

Fig05

Fig07

Fig08
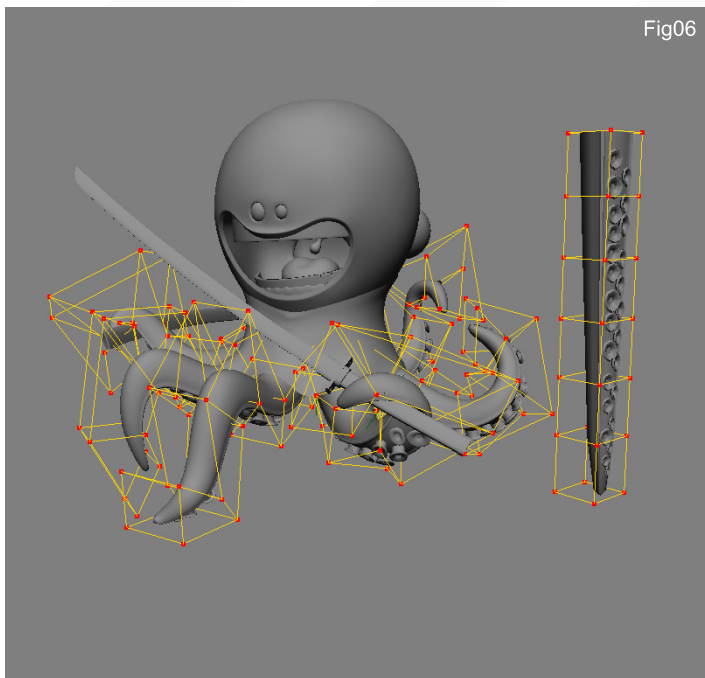
FIG.05. I then I merged (create > poly mesh > merge) the suckers and the tentacle, making sure the tolerance was set to 0, so that the suckers stayed independent (this is something that will become pretty useful during the next step).

FIG.06 Then I had to make my tentacles move. Since the final image is a still, I didn't bother with creating a complex rig, but instead they were just deformed by a few lattices; one for each arm. I created a lattice around the tentacle and duplicated them. All I had to do then was to move each tentacle, and its assigned lattice, where I wanted them, and tweak the deformer so that the arm was bent. This method may lack subtlety, but it was really simple to work around, and served its purpose quite nicely, without having to bother with rigging and skinning. It also offered good control over how the tentacles were deformed; I could use the lattices' points to bulge, twist, and scale the tentacle's shape very quickly. And, if I wanted to easily modify the mesh itself, all I had to do was disable the deformer in the Explorer so that the arm went back to its former, straight shape, and then turn the lattice back on when I was done.
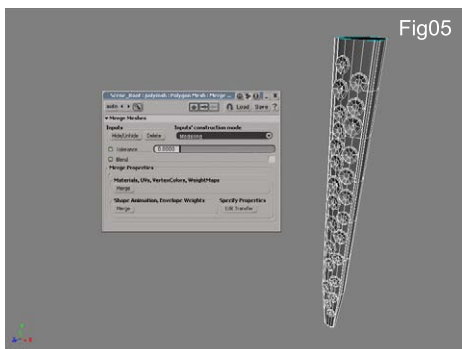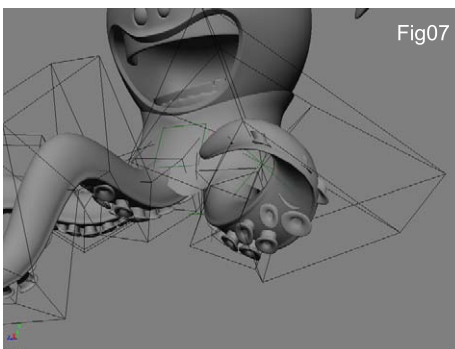
FIG.07 Of course, there were some problems with the use of lattices. For example, the deformation could be quite violent and some suckers tended to get buried in the tentacle mesh. That's why I set the merge tolerance value to 0 earlier on. The suckers were part of the arm mesh, and were deformed by the lattices, but since they were physically independent, I could delete those that I didn't need, and could modify the others - moving and rotating them - until I got the right silhouette, without altering the tentacle topology itself.
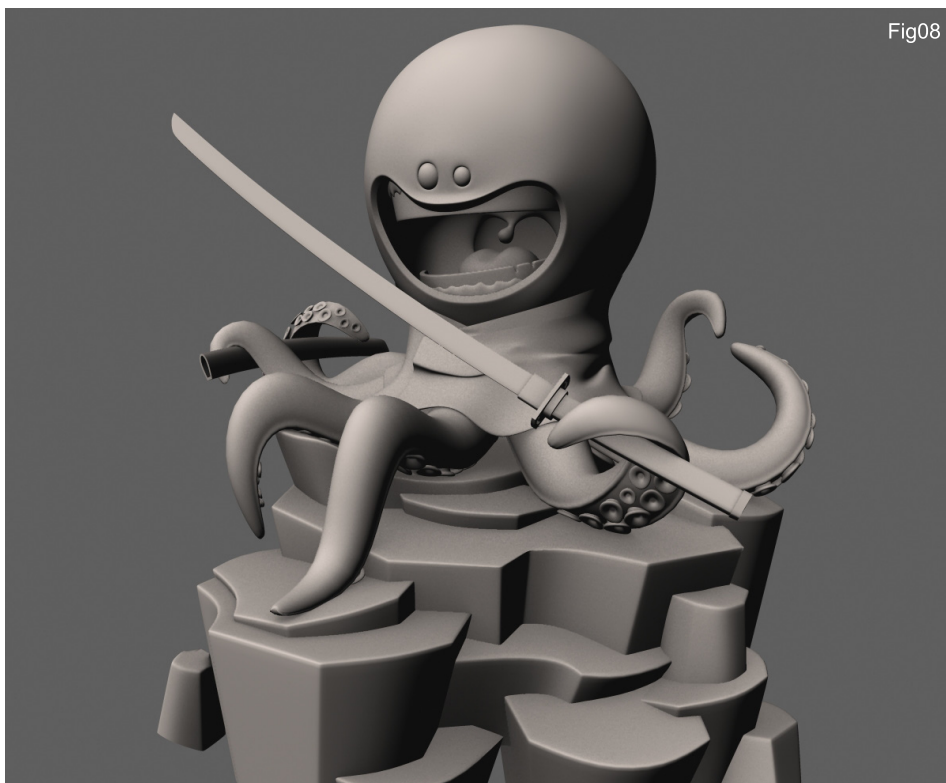
FIG.08 Once the arms were bent the way I wanted, I could model the kimono and the rock on which the octopus was going to stand. These meshes came last, so that I was not limited by them whilst placing and bending the tentacles. The rock was simply made of cubes. Their edges were chamfered so that, when the mesh was smoothed, they looked hard, but not as much as real hard edges would have been, giving the set a more cartoony feel. This way, the rock would catch the light pretty nicely when rendered.

FIG.09 The kimono was a cylinder with its caps removed. Since it was going to be pretty dark, I just modelled a few folds and made the fabric wave a little on top of the arms. I tried not to over model the other accessories (although modelling a realistic and detailed katana was pretty tempting). The rope band eventually replaced the fabric band I had planned, which was a cylinder with some extrusions on the side. When the UVs were unwrapped, it was twisted, with the right texture and lighting, and looked like a great, cartoony rope.

FIG.10 -11 I was then able to texture my octopus. The main map was very simple: just some blue stains. I then added a "mix2color" node to my material, using a gradient as a mask so that the map progressively disappeared along the tentacle, giving way to a pinkish colour. I already knew that I would render many passes; one of them being subsurface scattering. The gradient and pink colour would emphasise the affect of the SSS when mixed with it. Apart from that, there was nothing fancy. Some specular effects were painted directly on the textures, for example on the tongue, where it was harder to get with normal specular and lighting. The kimono was a lambert material with a dark ambient that gave me a smooth, fabric-like specular. The sword's blade was a gradient plugged in a constant material. I got the exact effect I wanted without having to create a specific shader and trying to make it work right with the lighting.

FIG.12 The light set itself is a very simple domelight to which I add slightly coloured front and back lights.
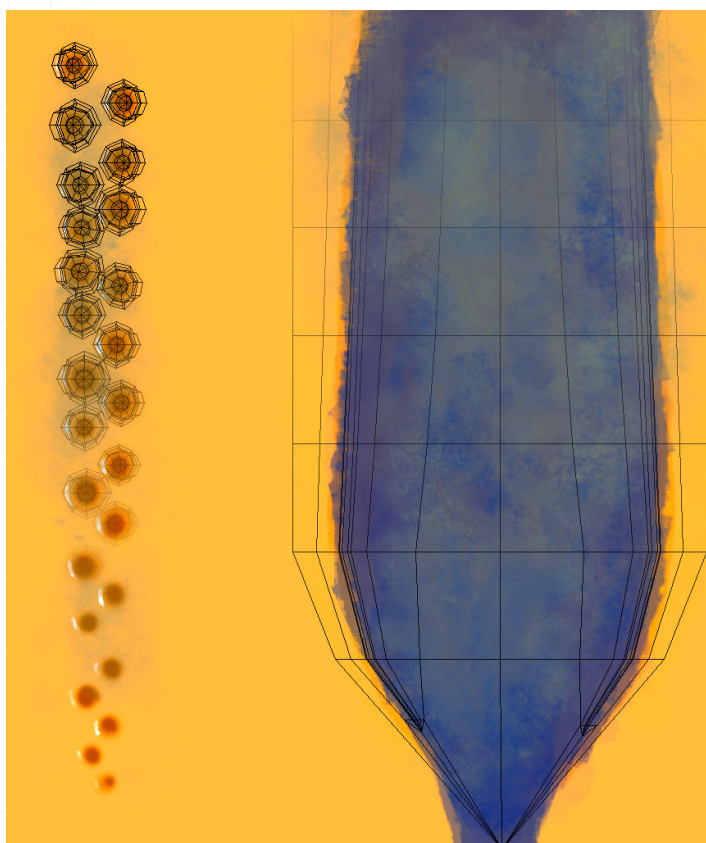
Fig09

Fig10
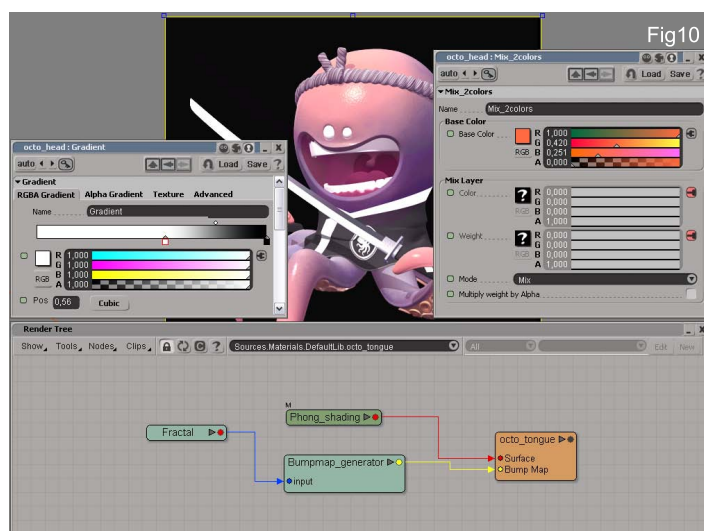
Fig12
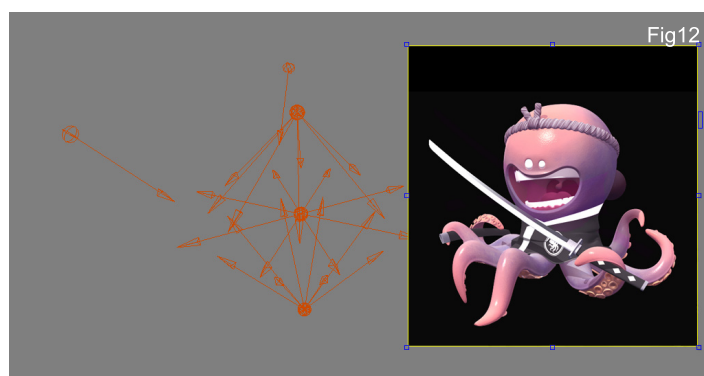
Fig17

Fig18

Fig19

Fig13
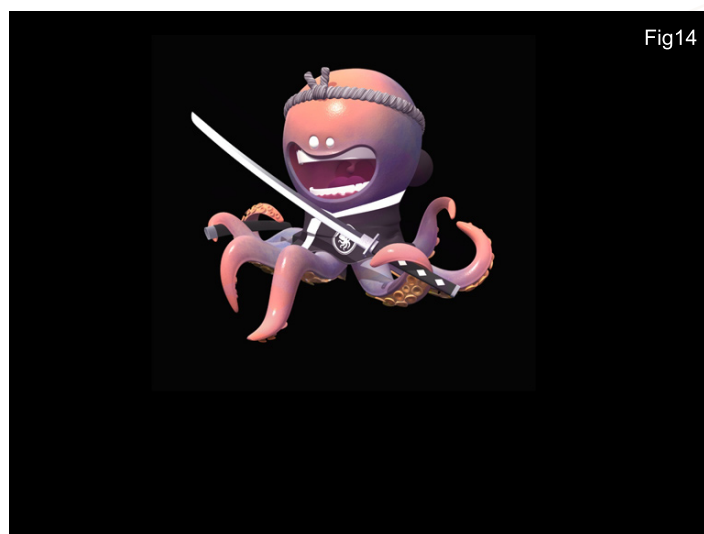
Fig14

FIG.13-19 Then I rendered multiple passes; the octopus diffuse, its specular, and the rock diffuse were rendered separately. There was also an SSS pass, a shadow pass, and one for the ambient occlusion (not too grainy though, as I wanted my octopus to retain a clean and smooth look). One reasons why I like XSI is because its passes and partitions system is really easy to use, and efficient. Before I started doing my final compositing in Photoshop, I also rendered some black and white images that I would use as masks.
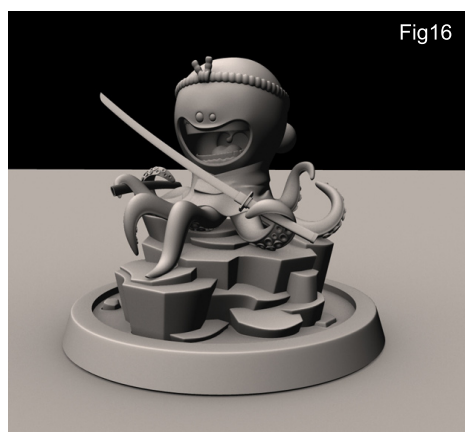
Fig15

Fig16
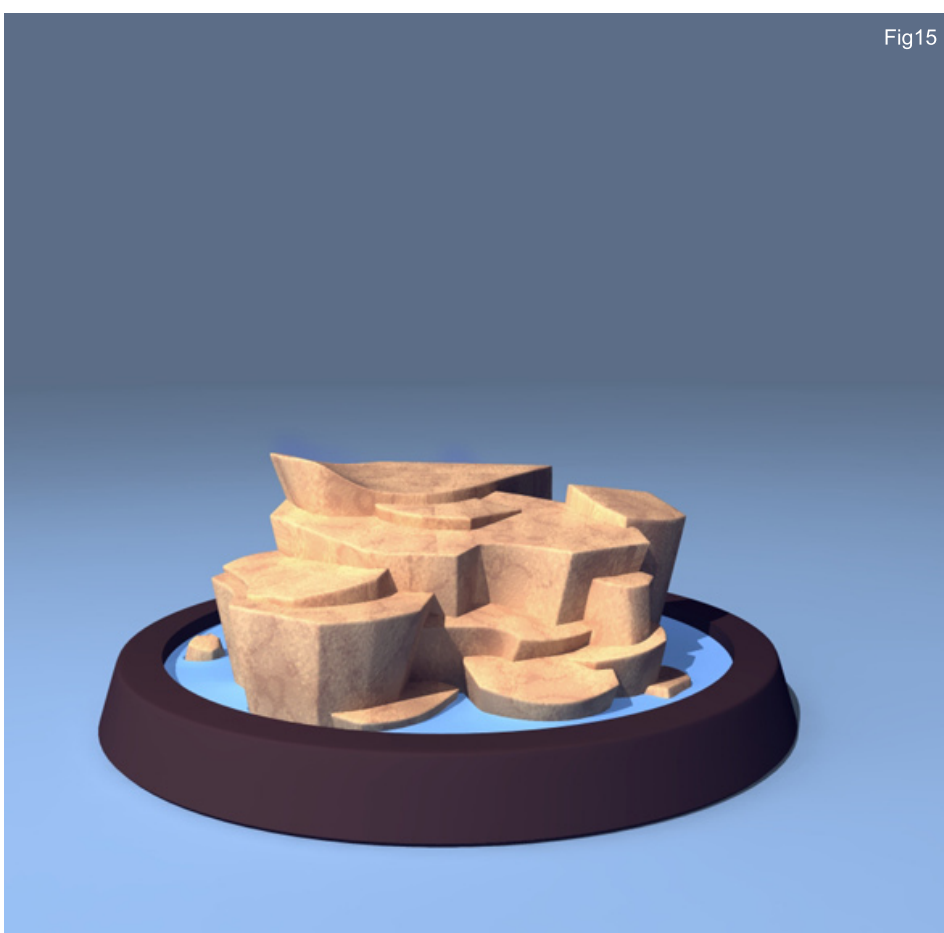
FIG.20 Working in Photoshop is one of my favourite parts - it's where the final image really takes shape. I put all of my passes in different layers and started playing with the opacity and blending. The masks I rendered were pretty useful when applying brightness/contrast, or colour balance effects on select parts of the image. In Fig.20, you can see most of the layers that I used during compositing. There were small touch-ups made with my Wacom, but it was pretty much the quickest task of the process; every pass served its purpose quite nicely and the final image came together painlessly. And, that's it! See you on Threedy...

OMALLEY (a.k.a. Guillaume Ospital)

For more from this artist visit: www.doodlebrawl.com

Or contact: mr.crowley@wanadoo.fr

Fig20
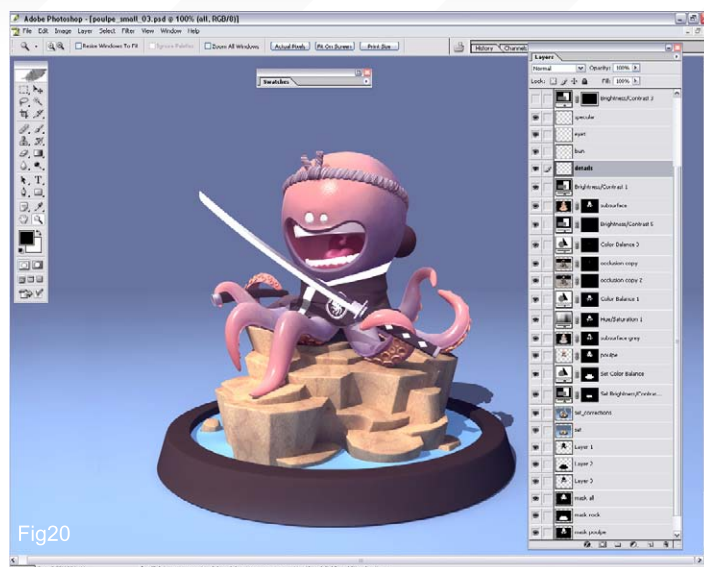
3rd: **Artecnl**

Hi, I'm Eugenio García Villarreal, and this is my third 3D Making Of. As I have said before; I hope this Making Of helps you to find some inspiration. I'm a CG Illustrator from Monterrey, Mexico, a self -taught guy with more than two years experience in the 3D world. This image was the second one created for the stylized animal challenges - a very fun competition in Threedy.com and 3DTotal.com. The idea came really quickly to me. What's the main characteristic of an octopus? Well, the 8 tentacles are - it says so in the name - and what you can do with eight extremities? A lot. At the time, I was working a lot and I was thinking how great tit would be to be a 3D Artist Octopus; you could do things faster and, as I say, the idea came very fast, so I drew some sketches with the main idea and colours. I showed it to the Threedy guys to get some feedback (Fig.01). Next, I "Googled" - spending maybe 2 hours - to research for all the things I needed for references. Because it is a very detailed scene, it was necessary to have a lot of references (Fig.02).

Fig01

Fig02

MODELLING I enjoyed this scene because it has a lot of details to it. It was a relaxing task, because, whilst I model I like to listen to music; think about life - stuff like that. With my references on screen, I started to model. The first things were the environment, the circular desk, the computers, monitors, the room. They were all done with basic primitives - mainly boxes. Some things had sub-patches, to achieve the round feel. I didn't want to have too many polys in certain objects, so I reduced the polygon numbers. Fig.03 shows some objects from the scene. Basically, I used a few tools, like band saw, multishift, bevel, bridge tool, edge bevel, and the kinds of tools that get detail. I didn't go too far with the detailing, because I wanted the attention to remain with the

Fig03

character. I made the character with box modelling, and sub patches, as I was looking for a toonish look. I didn't do any UVs, only procedural textures. Finally, I composited all of the elements in my layout, but there was no rig for the character (Fig.04a-b). I made all of the objects on separate layers.
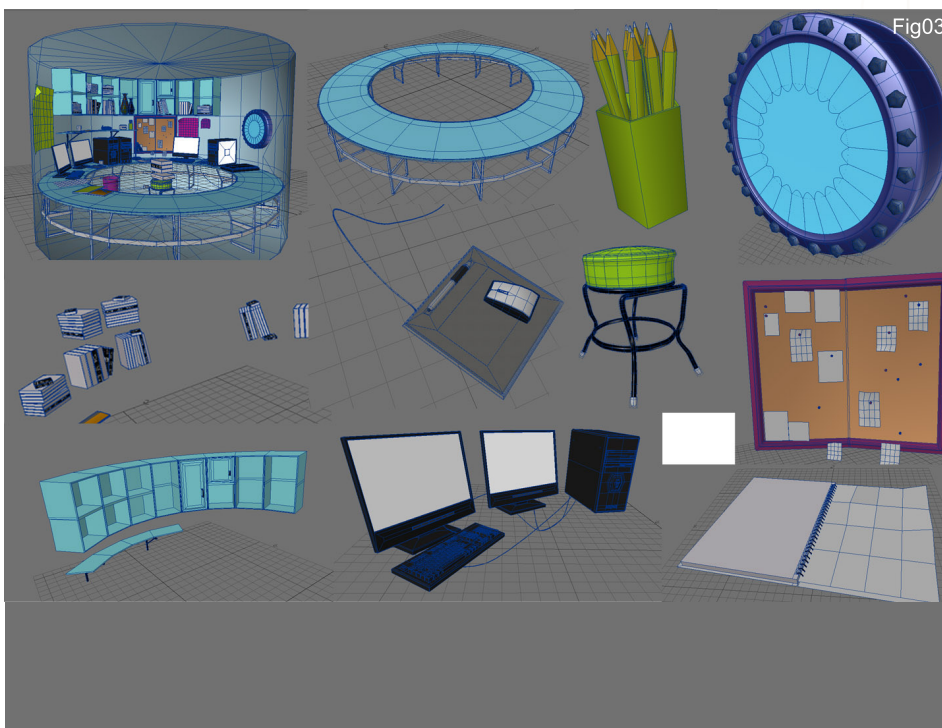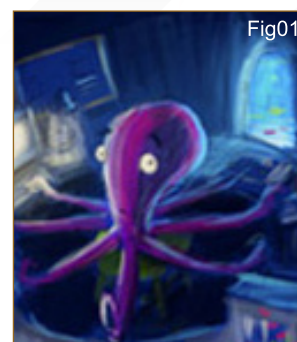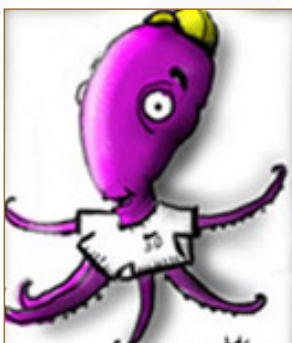
LIGHTING From the first moment that I made the sketch, I had an idea of the lightning; a bluish and orange ambient with the main light of the ocean, and secondary light from monitors and lamps, with an orange light to balance the overall look (Fig.05).

TEXTURING When my lighting was set up, I began to do the texture work; basic projection, and some UV maps. To texture the room, I used 3DTotal Textures V2, mixed with some Photoshop work. It was a really fast texturing session, because most of it was just preset materials from LightWave (Fig.06).

RENDERING I made 2 render passes to get more control over the elements, and to save on ram memory; one pass was the room, and the other was the character. The final size was 2600x1300 pixels (Fig.07).

POST PRODUCTION This was a very important stage for this image, because I created a lot of details in this step; lots of touch-ups for the character (veins, the T-shirt logo, etc.) and little details (like the fish from the window, the glow from the lights etc.) made it really fun (Fig.08). Finally, with my 2 passes flattened, I made the colour corrections and final details, and there it was: my final image. In total I spent 40 hours on this image, within 2 weeks of work (Fig.09). I would finally like to thank 3DTotal, Zoo Publishing, and my friends from Threedy.com.

Fig04a

Fig04b

Fig05

Fig06

Fig07
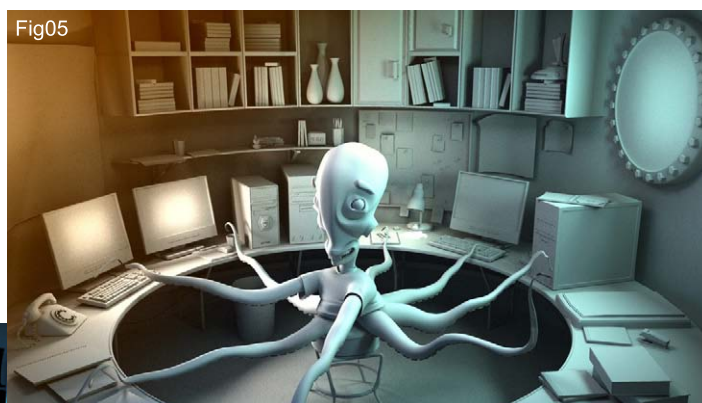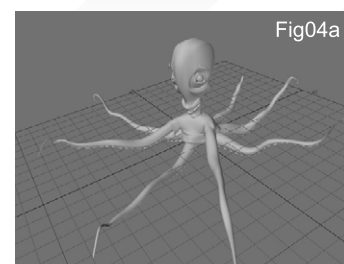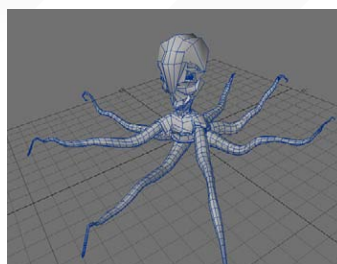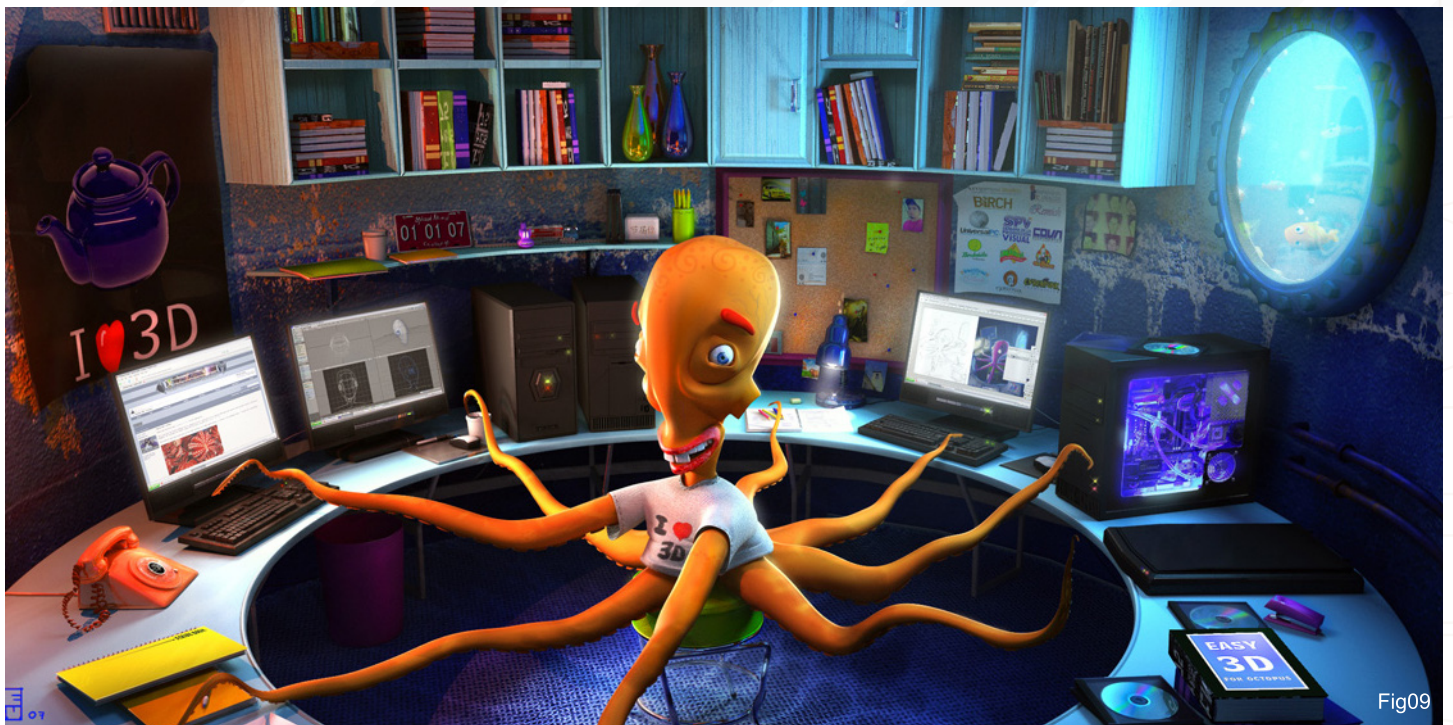
Fig09

ARTECNL (a.k.a. Eugenio Garcia)

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Or contact: artecnl@gmail.com

Fig08

This Month we Feature:

Stefan Morrell

André P. J. Cantarel

KAPSEL

Yidong Li

Jean-Marc Labal

Xiaoyu

Richard Rosenman

Alessandro Baldasseroni

Neil Maccormack

& Michael Seidl

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3dcreative

ALPINE VILLAGE

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Read an In-Depth Interview with Stefan

at the start of this issue!

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& VODKA
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KRAFT - "GEYSER"

Richard Rosenman

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Project credits:

Director: Richard Rosenman, Exec. Producer: Randi Yaffa, Character Artist (Modeling, Rigging): Joel Mongeon, Lead Animator: Kevin Lebanowich, Secondary Chars Animator: Scott Guppy, Scene 1 Animator: Shawn Escay Environmental Modeling: Raden Slipicevic, Tyler Figueira, Cloth Dynamics: Joel Mongeon Special VFX: Tyler Figueira, Lighting, Rendering & Compositing: Richard Rosenman, Line Producer: Julia Weinstein, Online Artist @ Relish: Patrick Coffey & Produced at Hatch Studios Ltd.

Hunter

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Follow the 'Making Of' this
image in the June issue of
3DCreative Magazine!

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SOFTIMAGE

XS 6
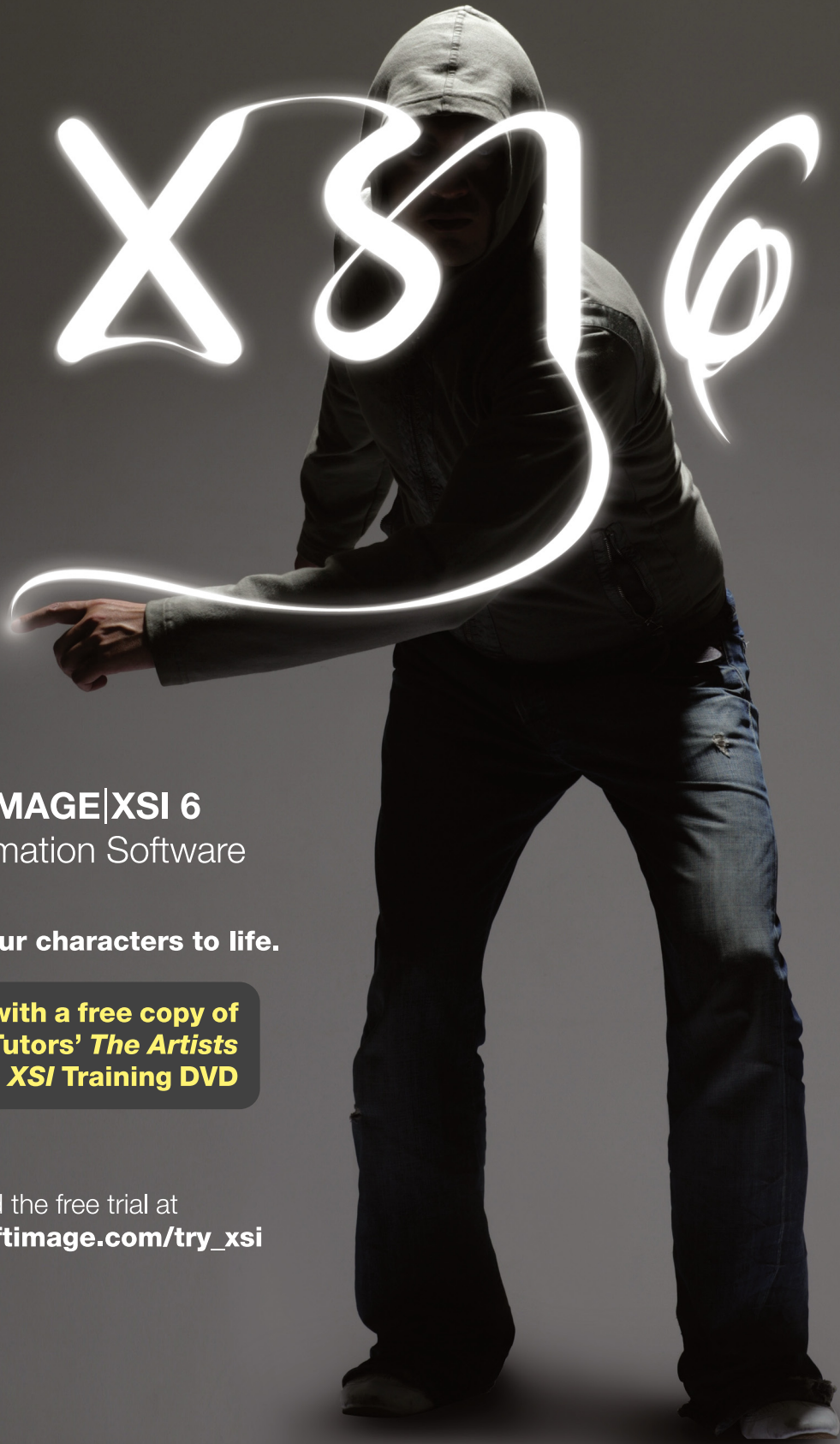
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TUC TUC Is our new precise, step-by-step tutorial which will begin with a vehicle model and cover the principals of applying shaders, placing it in a simple scene & following with a two part section on both lighting and rendering. The tutorial will begin by creating and applying materials for the various parts of the car such as glass, chrome & tyres as well as texturing some simple geometry that will make up a scene. It will then move onto lighting where the focus will be on setting up a lighting rig and the various parameters connected to this. Finally the series will culminate with a section on rendering where the aim will be to finish with a polished image.

This Month : Part 4

LIGHTING SETUP & RIG (WITH HDRI) PART 2

Framing a Subject

Bjorn Veno is a Photographer, who was born in the UK, but has grown up in Norway. He gives us a tutorial explaining the thoughts and techniques that he uses when framing a subject and creating the compostion...

"A LOT IS OFTEN DONE IN EDITING AND/OR WITH THE HELP OF TEST SHOOTS. THERE IS ALWAYS AN ELEMENT OF "HAPPY ACCIDENTS", WHICH IS ONE OF THE THINGS THAT I BELIEVE IS SO MAGICAL ABOUT PHOTOGRAPHY."
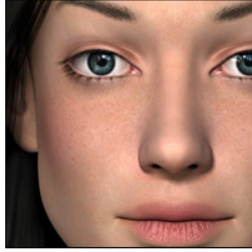
Framing a Subject

How one composes a picture is an integral part of how an artist helps to control the viewer's gaze, along with the interpretation of their image. It is an intrinsic part of the process and as such is something to be considered vital to creating any form of painting, and in this case photograph. In the following article, Bjorn Veno discusses a different approach to three of his subjects, and the impact that composition has on each of them. - *Rich Tilbury, Zoo Publishing*

My aim, when taking pictures, is to make sure that every element within the frame, and the technical choices that I make, are all working together to tell the same story. In the following photographs, I'm trying to suggest that the people have something that is troubling them, without telling you what it is exactly, which is often achieved by having the subject looking out of the frame, or having a distant and/or contemplating gaze. I shall now talk you through each picture and tell you what choices I made in order to emphasize this, focusing upon the framing of my subjects and the composition of the photograph. In all three of the pictures, my subject is approximately one fourth of the image, or less. This is because I wanted to use the environment that they were in, to help me create a narrative. To shoot such an image, I always use a wide-angle lens because I don't want to be too far away from my model and also because I don't want to compress my middle ground and foreground together - something that would happen if I used a longer focal length, such as a telephoto lens. In all of these pictures

I have used one flashgun on a stand, normally to the side of the camera, in conjunction with available light that has been under exposed by two to three stops, to create the eerie effect and to bring the model out of the background. If I had used the flash straight on to the subject I would have achieved a flat image, since I would have eliminated the shadows.

INGRID [Image.01]

Ingrid is placed in the far right of the picture. Because we read from right to left then this might suggest that she has no further to go. Ingrid is made the most important element in the picture with the help of lighting and the touch of red, which is the strongest colour to our mind. In the far left of the picture there is a church, and between the two subjects there are two diagonal lines - signifying a connection between the two. A diagonal line might give us a sense of unease, unlike horizontal lines that are calming to the mind. The picture is divided by a light sky that

Image01

the churches spire is pointing towards and a dark earth that Ingrid is anchored in. The sky is only one third of the image because the most important part is the earth. If I had an equal balance between the two then there would have been two parts competing for equal attention.

INGER [Image.02]

Inger is placed in the centre of the image to create a sense of symmetry in relation to the background. This is playing on mans' desire for order and control over its environment. However, order is broken by the graffiti. The green light is unnatural and emphasises that we are in a space that is totally man-made. Further more it helps to bring Inger out of the picture, because it is red's complementary colour. When framing the image, I cropped Inger's legs off because I didn't want her to become too small in the space, and I wanted a landscape formatted picture, because I needed the lights on either side that were creating a depth to the image by pointing inwards.

JESSICA [Image.03]

Jessica's clothes are blue, and would have blended in with the sky if it had not been for the flash and the sparkler - with its orange and yellow colours - complementing the blue and bringing the image to life. One might note that the sparkler may seem to jump out of the picture, and this is because warm colours, such as yellow and red, come forward, and cold colours, such as blues and greens, fall backwards. To further emphasise Jessica's importance in the picture, I used two trees to create a frame around her. The position of the camera in relation to the model is highly important; if I have the camera pointing down towards my subject then I'm making him/her seem small and vulnerable; if I have the camera pointing up towards my subject then I'm making him/her look stronger and more commanding. In this picture I have done the latter: making a girl of thirteen seem strong in a frightening environment. I think this was an important factor, in conjunction with her concerned look, for creating the ambivalence that I was aiming for. One must be aware that when one has the

camera tilting up or down, then the lines will not be straight. Look at the trees and note that they are pointing inwards, as this makes the trees seem taller than they are.

CONCLUSION

When I look at these three images now, I tend to feel that they are too "staged". The question for me now is, how do I get a more spontaneous look to my images? My decision has been to look at using performance in my photography, by using either myself or actors. So, what are the most important things to think about when framing a subject and composing an image? You have to know what you want your image to say, and every decision that you make should reflect that. Therefore, it is important to gain knowledge of visual language. The best way to learn is to look at as many images as possible and to ask yourself what the image is telling you, but most importantly is to look at all the decisions the photographer has made when taking the picture. It is important to be aware that, for a photographer, a lot is often done in editing

Image02

and/or with the help of test shoots. There is always an element of "happy accidents", which is one of the things that I believe is so magical about photography.

Bjorn Veno

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www.bveno.com

Or contact:

bjornveno@gmail.com
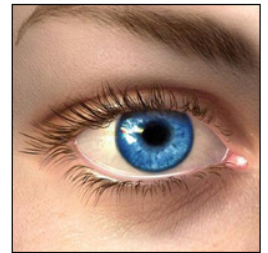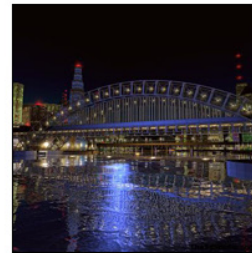
Following on from the Introduction in our February Issue, the "Complete Guide to Lighting in Lightwave" looks, this month, into the basics of texturing, and how it relates to your lighting setup...

Next month: the basics of lighting.

lightwave

COMPLETE GUIDE TO **LIGHTING**

"WE WILL LEARN TO APPLY A SURFACE TO A GROUP OF POLYGONS, AND UNDERSTAND SOME BASIC PROPERTIES ALL SURFACES HAVE."

PART 2 : TEXTURING BASICS

COMPLETE GUIDE TO LIGHTING

PART 2: TEXTURING BASICS

CREATED IN:

Newtek LightWave 3D

This chapter will concentrate upon teaching you the basics of surfacing. It is essential to know some of it before getting into lighting. We will learn to apply a surface to a group of polygons, and understand some of the basic properties all surfaces have. With it, we will be ready to start learning some basic lighting tools.

APPLYING A SURFACE:

We need Modeller to assign surfaces to polygons and points. A surface is a group of properties that define the look of a specific group of polygons or points. We will not assign surfaces to points in this tutorial, but we will instead assign surfaces to polygons. Make a ball: <Shift> then <O> inside Modeller. To assign a surface you first need to select the polygons you want to apply the surface to. Select the top half of the sphere by hand. You can use an orthographic view to left-click and select the polygons. Anything inside the circumference will be selected. With the top half of the polygons selected, press <Q>. A pop-up menu with the title "Change Surface" will appear (Fig.01).

THE CHANGE SURFACE POP-UP MENU

This menu allow us to quickly assign some basic attributes for a surface. There are more properties that a surface can have - a lot more. This menu allow us to create a surface, give it a name, and assign it to a group of polygons. That is the most important use of this tool, which makes it indispensable from the very beginning of the texturing process.
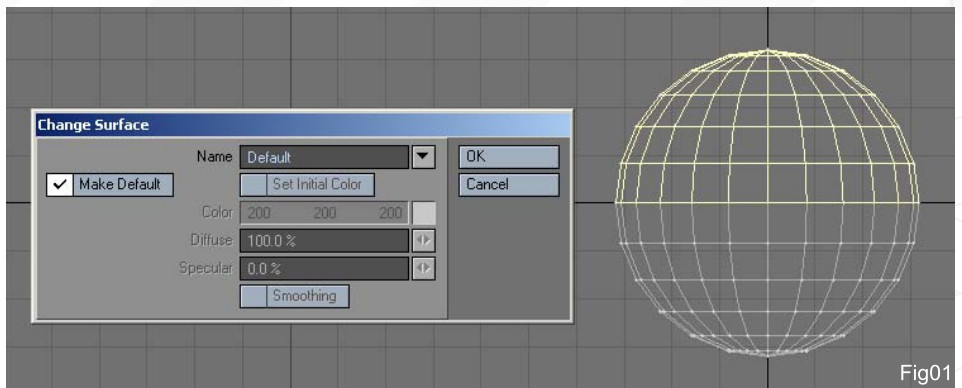
Fig01
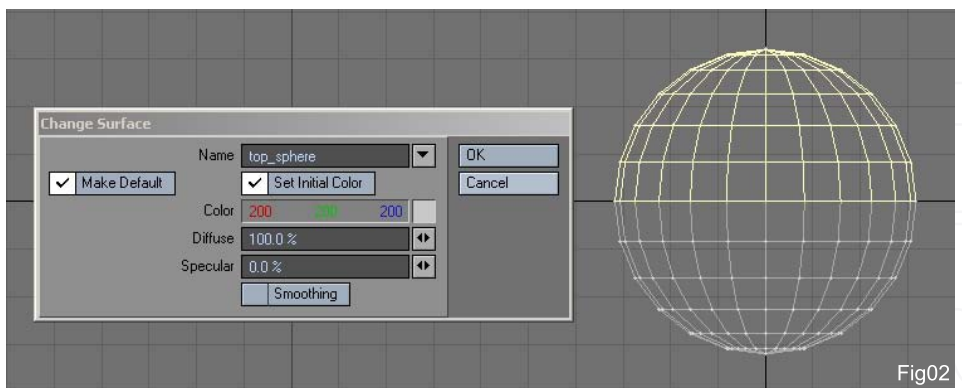
Fig02

SURFACE NAME

This is the first property of the Change Surface pop-up menu. It has the word "Name" as the label, and the value "Default" inside the text area. This text area defines the name of our surface. Change that value to "top_sphere". This will assign the name "top_sphere" to the selected polygons. Save the LWO file (Save / Save Object), and give it the name, "test" (Fig.02). If you don't change the value, Default, to your own name, the interface will not activate the options inside the panel. This happens so that the Default surface will keep its properties intact. The Default surface is the initial surface of all polygons created. You can later change the colour and properties of that Default surface by other methods. I highly suggest for you to leave it as it is. The Change Surface pop-up menu also allows us to change other values. It allows us to change the colour, diffuse, specular, activate the smoothing of a surface, and so on. Such changes could be done in a more ordered way via the Surface Editor.

THE SURFACE EDITOR

We previously saw how the Change Surface menu helps us assign a surface at Modeller. It is a start-up to give polygons a surface. It is by no means a surface tweaking tool. Tweaking is done using the Surface Editor <F5>. The Surface Editor can be found both in Modeller and Layout, and it allows you to tweak your surfaces. I highly recommend spending less time doing surfaces in Modeller, and more doing them in Layout. The reason is quite simple: Modeller can't render. Doing render tests is the best way to preview a surface, and therefore we will be explaining the Surface Editor inside Layout (Fig.03).

Fig03

THE SURFACE EDITOR POP-UP MENU

The Surface Editor allows us to tweak and adjust surfaces. The Surface Editor exists both in Modeller and Layout. You will find a button named "Surface Editor" at the top left part of your interface. You can access the Surface Editor by clicking on this button. You can also access it by pressing the "F5" key on your keyboard. The Surface Editor allows us to tweak and adjust surfaces. This is the main tool used to modify our surfaces (Fig.04). Note: On some keyboards, there is a key that activates/deactivates all the Function Keys (F1 to F12 keys). It is normally called "F-Lock". If you press F5 and you don't get the Surface Editor pop-up, you need to find how to activate the Function keys on your keyboard, or select it manually by using the left menu in Layout/Modeller. The Surface Editor is a wild beast. You want to tame this beast to work for you, and not against you. In order to tame it, you need to know its parts. There are three main parts for the Surface Editor, as follows:

1. SURFACE NAMES.
On the left, we have a list of all the surfaces. You can see this list by using the options on the top. You can edit by either Object or Scene, and you can filter which surfaces you want to see. You perhaps want to see the surfaces with the prefix "car" in them. Filtering may not seem too obvious at the moment. Later on, when you have 200 surfaces listed, you will realise that you don't want to see them all at the same time. That is the reason why the Edit, Filter and Pattern options exist (Fig.05).

2. PREVIEW WINDOW.
To the right you will find a preview window for the surface. By default, this window will show all the changes done to the channels of the surface. You can change that with the Display drop-down. There are other options we can change by clicking the Options window (Fig.06), with the little image with a grey ball showing the buttons "Load", "Save", "Rename", etc.

3. THE TABS.
There are four main tabs that gather surface properties. The Basic tab is the most used, and holds basic properties of a surface, such as the colour. There is an Advanced Tab, which holds properties to filter light that passes through surfaces, or can make those surfaces glow. The Environment tab allows us to determine how the surface reacts to the environment. Reflective surfaces highly depend upon the environment
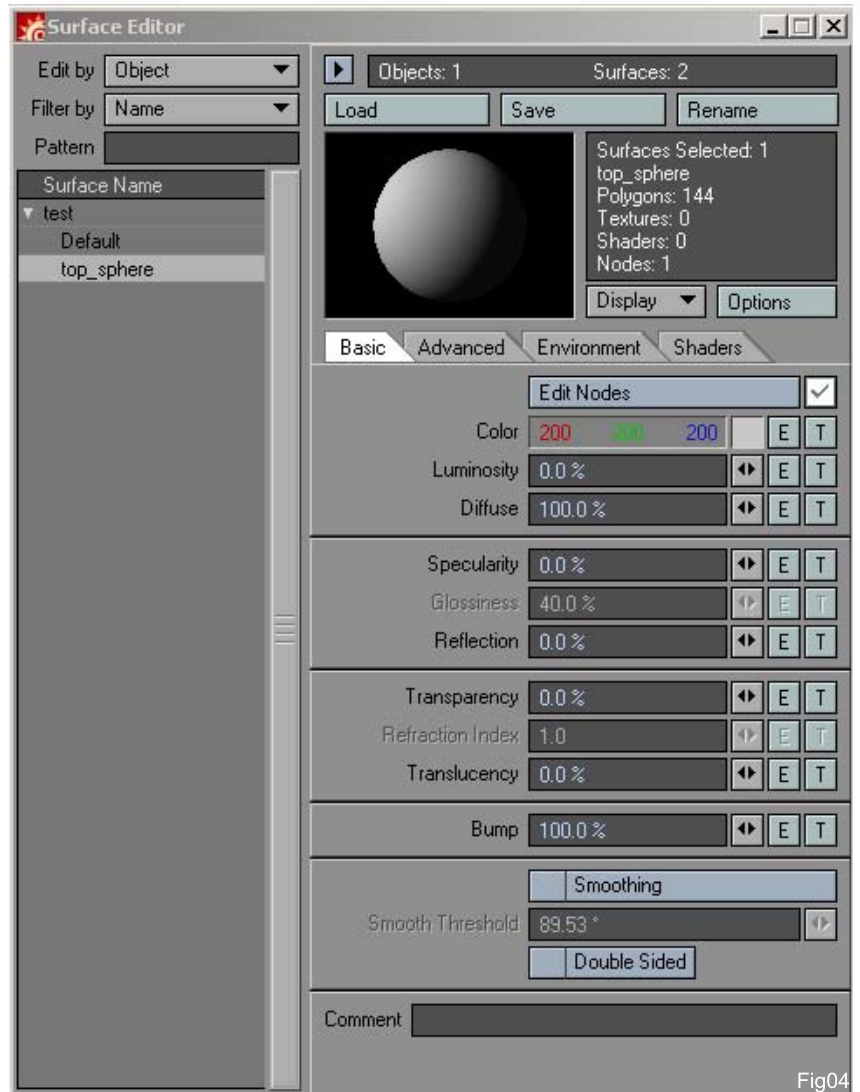
Fig04

Fig05
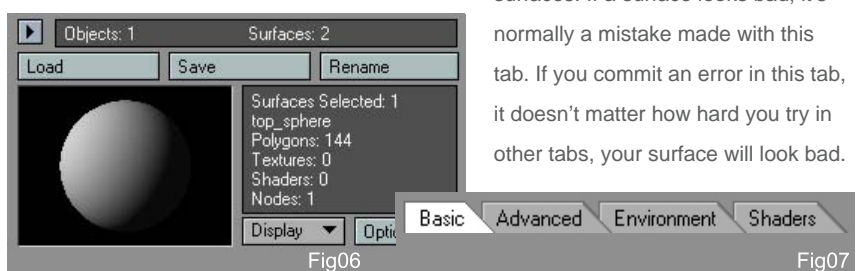
Fig06

settings. Therefore, you will find yourself using this when you create reflective surfaces. The Shaders Tab holds Shaders. Shaders define how a surface will react to light. To achieve a cell-shading look, a sketched look, and others, you need to apply shaders. Let's explain the most basic and important tab: the Basic tab (Fig.07). The Basic Tab holds the most important properties to alter our surfaces. If a surface looks bad, it's normally a mistake made with this tab. If you commit an error in this tab, it doesn't matter how hard you try in other tabs, your surface will look bad.

Fig07

The Basic Tab

In the Basic tab is a vertical list of properties which resembles an audio mixing device. There are buttons on the right that repeat themselves, and help us go deeper into each property (button "T"), and even animate them (button "E"). The first button is the "Edit Nodes" button. Nodes were firstly introduced in LightWave 9. It is a brand new texturing system that works only in LightWave 9. The nodal system opens new doors and ways for texturing. However, it does not represent the key to achieve quality, since work with quality exists long before this new nodal system. Learning the previous texturing system will enhance your ability to manipulate the nodal system. You first need to learn how to give a good punch before you learn to give a flying kick (Fig.08).

Colour

The Colour field allows us to select the colour for our surface. There are 3 numbers, that are set to 200 by default. There is a red, green, and a blue number, which represent how much red, green and blue each colour has. This is commonly known as the "RGB" value. Red, green and blue are primary colours, and you can build any colour by combining them together. The values <0,0,0> (R, G, B) represents black. A neutral gray will be represented by <128,128,128>. A pure red will be represented by <255,0,0>. White will be represented by <255,255,255>. Values between 0 and 255 don't take or give light by their own. They need the existence of a light source in order to show their colour on your monitor. Our <255,255,255> would be a white colour inside a dark room where no light is able to reach it. Therefore, no white will be shown in our camera. Values between 0 and 255 require a light to be visible. Values under 0 and over 255 do exist. An RGB value of 1000,1000,1000 would create light by itself. Inside a black room, it would be able to glow. Negative values in RGB, such as -1000,-1000,-1000 would suck up light. A value of -255,0,0 would suck up the red colour of objects. You can actually produce shadows by using this technique. This type of lighting/shading requires the activation of Radiosity at the rendering settings. Keep in mind that Radiosity is not set-up by default. We will explain this concept later on.

Colour Picker

Selecting colour by using just numbers is a little too complicated, which is why, to the left of the RGB numbers, we have a little box showing the colour. If you change the RGB values, this colour will change. Additionally, you can left-click on it to open a menu where you can select colours, too. There is an additional colour picker that could also be used.

Changing the Colour Picker

The original colour picker is a bit limited. LightWave comes with a more versatile colour picker. To select it, get into Layout and press <D>. This will open up the Preferences window. Go to the General tab. There is
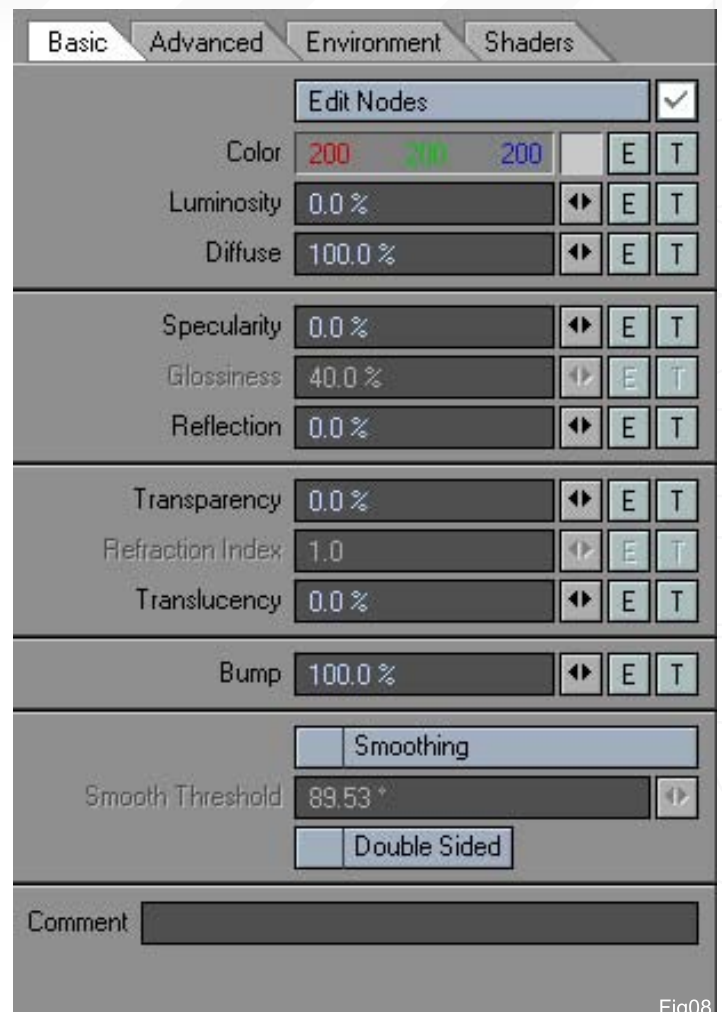
Fig08

a label that says "Colour Picker". Choose from the drop-down on the right, the "LW_ColrPikr". Close the window. Press <F5> to bring back the Surface Editor. Click on the Colour box, and you will notice that the colour picker has changed. It should now have five tabs, which contain different ways to select colours, including Hue, Saturation, Value, Wavelength and Temperature (Kelvin). This colour picker will allow you to have a better control and precision over the colours you want to select (Fig.09).

LUMINOSITY tells you how much light is emitted by the object. Light bulbs, screens and TVs emit light, which are all obvious examples of how to use this property. You can also use it to fake other phenomenon to a certain degree. You can fake the illusion of light entering the
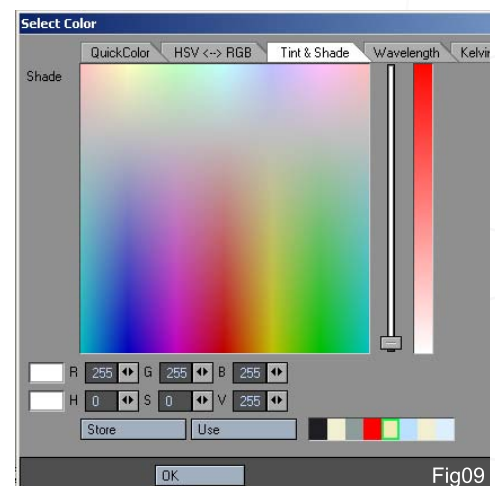
Fig09

object, and going out again, just as it happens in organic surfaces. By applying certain luminosity to objects, you can make them seem "lighter". Fig.10 shows the left sphere with 0% luminosity; the middle sphere with 50% luminosity; whilst the sphere on the right has 100% luminosity. The surfaces in the middle and on the right sphere look brighter. However, they are not emitting light or illuminating each other. Only by activating Radiosity inside our render engine can we make objects emit light. If this property is not activated, we will just make objects look brighter (Fig.10).

DIFFUSE is a multiplier, which determines how much of our selected colour is shown, once the surface is reached by light. In simpler terms, it makes a colour either lighter or darker. For those who know Photoshop, think of it as a Brightness/Contrast colour regulator. As with colour, if you increase this value above 100%, you will make the object self-luminous. In Fig.11 we have the sphere on the left with a diffuse value of 25%; the middle sphere has 50% diffuse; whilst the sphere on the right has 100% diffuse. The original colour applied to the 3 spheres has an RGB value of 128, 53, 41. All the spheres have this colour, however, this colour looks darker in the middle and on the left sphere. The diffuse value tells how much light the surface receives from our lighting (Fig.11).

SPECULARITY helps produce fake highlights. It is similar to when we make a drawing of an apple, and we paint a white panel reflected over the apple's surface. This painted square on the apple lets us represent that the surface of the apple is reflective - it is a fake reflection. Specularity is also a fake reflection. The higher the specular value, the more intense/bright the faked reflection will be (Fig.12).

GLOSSINESS determines how wide the fake highlight is. The smaller the value, the more loose it will be; the bigger the value, the more tight it will be. Glossiness can not exist without specularity. Therefore, Glossiness will remain
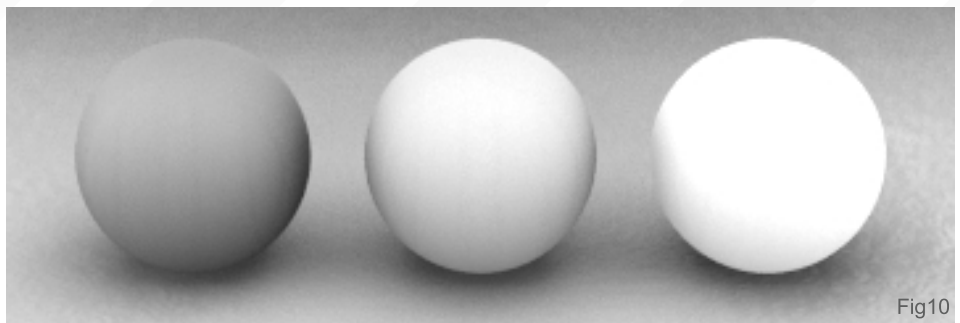
Fig10
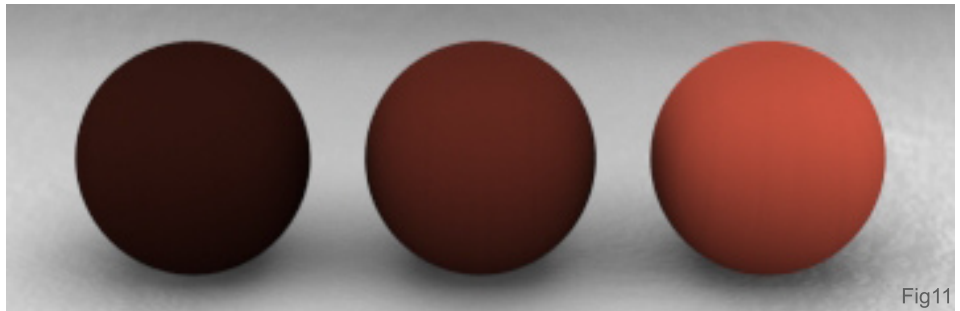
Fig11
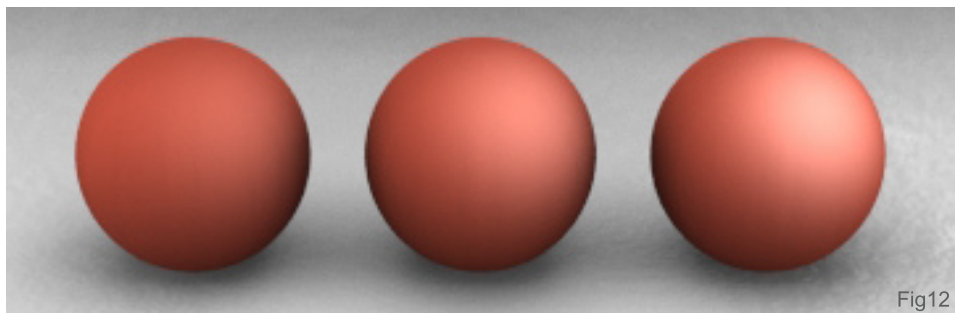
Fig12
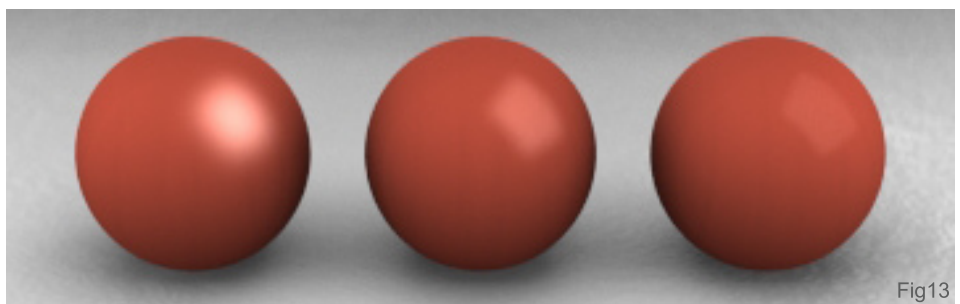
Fig13

inactive until the Specular value is above 0%. In Fig.13, the three spheres have a specular value of 80%. However, the first sphere has a glossiness value of 40%, the middle one has a glossiness value of 60%, whilst the right sphere has a glossiness level of 80%. The higher the glossiness level, the more plastic a surface will look. The higher the specular level, with a low glossiness value, the more metallic a surface will look. Remember, specular and glossiness help to simulate the effect of reflection. It's like painting that square on an apple to simulate it is reflective (Fig.13).

REFLECTION. With Reflections activated, you don't need a fake reflection. A surface can be 100% reflective, and show all of its environment. With reflection activated, you don't really need of Specularity and Glossiness. However, combining the three can help you to enhance highly reflective materials, such as metal. The next three spheres (Fig.14) have reflection. The sum of reflection and diffuse should equal 100%. That is in the case that transparency and translucency are at 0%. What's the deal with this? Well, a surface can't be 100% diffuse and 100% reflective at the same time. You can

do the surface, but the result will be out of the domain of what you know as reality. The ball on the left is reflecting 25%, so it will show itself (have a diffuse value) of 75%. The sphere in the middle is reflecting 50%, and has a diffuse of 50%, which also sums up 100%. The sphere on the right has a reflection value of 100%, so it has 0% as its diffuse. This right sphere is reflecting all of the light that it receives, therefore it is not showing anything of its diffuse. So, what are our spheres reflecting? Reflection only works when we have something to reflect. Sounds pretty obvious, but one of the most common mistakes is that you may increase the reflective value, and nothing will show up. That is because you need an environment to be reflected. In my case, I positioned our little spheres inside a box with an opening at the front. You will notice that the spheres are reflecting themselves too (Fig.14).

Combining reflection, specular and glossiness.
The previous example shows reflective spheres. The reflection is not showing the source of light - it is like a box with light glowing all around. We can add a fake reflection of a source of light by adding specular/glossiness to it. The following spheres keep the same diffuse/reflection values as the previous example, however, they all now have a 80% Speculary and 40% Glossiness. This adds a new "hot spot" to our reflection, which will indicate to us where the light is coming from in our scene. Note: The "real deal" for making hot spots is to actually build your light sources. That way, the reflection will show a tube, bulb, lamp, etc. Specular and Glossiness will fake that hot spot. To make it look "as it should be", you need to actually build the light sources. Another effect that helps enhance metals and reflective objects is "Bloom", which is that "light aura" that is visible on hot spots (Fig.15).

Transparency.
Objects such as windows are very transparent; water, air, glass, bottles they all have a certain transparency. The higher the number here, the more transparent they are.
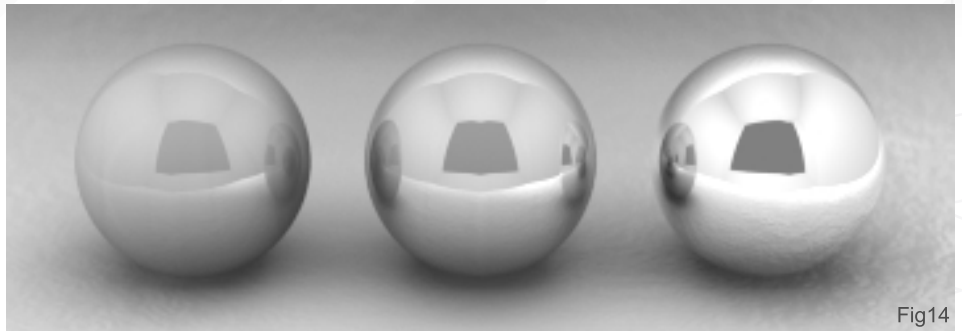
Fig14
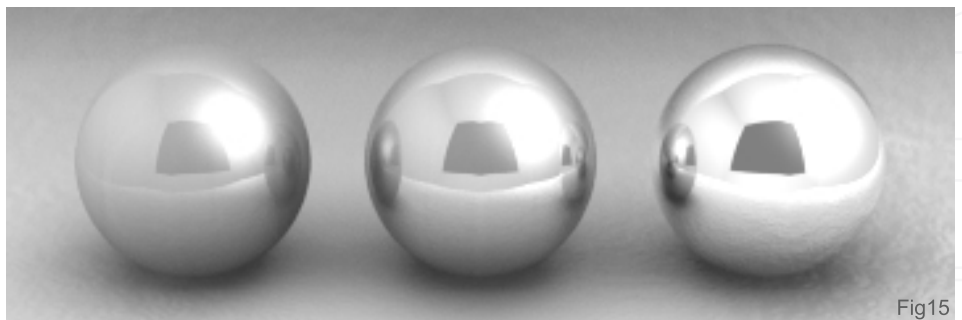
Fig15

Fig16

If an object is 100% transparent, then nothing of it should be visible. That is why, if you put transparency to an object, the sum of diffuse, reflection, transparency and translucency should equal 100%. It is the same rule as when you put reflection to an object. In the following example, we have three spheres. The sphere on the left has a transparency value of 25%, therefore its diffuse value is 75%. The sphere in the middle has a transparency value of 50%, so the diffuse value is 50%. The sphere on the right has a transparency value of 100% and diffuse of 0% - none of it is shown. 100% transparent objects are not visible to the eye (Fig.16).

Combining Transparency with Diffuse, Specularity and Reflection.
The previous example showed how transparency can be used to make surfaces more transparent. As you may have noticed, it looks more like it is "fading", or the equivalent

at Adobe Photoshop of the "opacity" value of a layer. In real life, we are used to seeing transparent objects in a different way - not just fading. In order to attain surfaces such as crystal or glass, we need to combine the previous concepts of diffuse, specularity, reflection and transparency. A glass surface shows part of its colour; it reflects the environment, and also lets you see through it. That is why we need to balance these values to sum up to 100%. The following scene has three spheres. They show different combinations of diffuse, specularity/glossiness, reflection and transparency. I'll now proceed to explain each result (Fig.17-20). The sphere on the left has 50% transparency, 25% reflection and 25% diffuse. Now, let's explain it in a way that makes more sense. The surface on the left sphere is showing 25% of its colour surface, is letting through 25% of the rays of light that reach it, and reflecting 25% of the rays of light (the environment). It does not have a

hot spot, since the specularity is set to 0%. The sphere in the middle has the same values in diffuse, reflection and transparency. However, this sphere has a value of 100% in its specular. This adds a hot spot to our sphere, making it look more like a bubble. The sphere on the right has the same values as the sphere in the middle. However, the only thing that changes is the colour. The colour has an RGB value of 128, 021, 001. Because our diffuse value is of 25%, the sphere is showing only 25% of that colour.

TRANSLUCENCY is the ability of a surface to let light pass through it, without the need for the surface to be transparent. You can see this effect happening in curtains and certain types of leathers. It is especially helpful to create soft, and more organic, surfaces. This property is by no means a solution to Sub Surface Scattering (SSS). In LightWave 3D 9, there are different ways to create such effects using the Node Editor. Before LightWave 9, there where external plug-ins that allowed you to fake the SSS effect. Fig.21 shows our three spheres. They all have a grey colour of 128,128,128 in RGB. However, they get their colouring from a light inside them. These surfaces are not transparent, but they all have 10% translucency. That light also makes our spheres look softer in appearance, something which is very desirable for organic surfaces (Fig.21-22).

BUMP. Small details that are difficult to model can be faked using the Bump Channel. Yes, it is fake detail, because it does not add more geometry to your surface. There are ways to add geometry by using something called "Displacement", but for now, let's stick with the Bump. The following render of the spheres shows what the bump channel is able to do. Pressing the "T" button, beside Bump, will allow you to specify the detail you want to show on your surface. In this case, I have put a small detail on the left sphere. The middle sphere has that same type of detail, but instead of having spikes, it has little bumps. On the left and middle spheres you don't notice that this is not real

Fig17

Fig18

Fig19
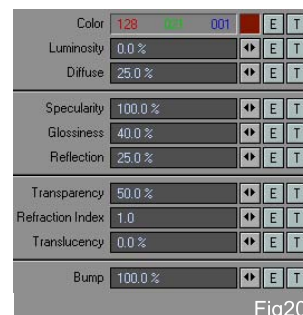
Fig20
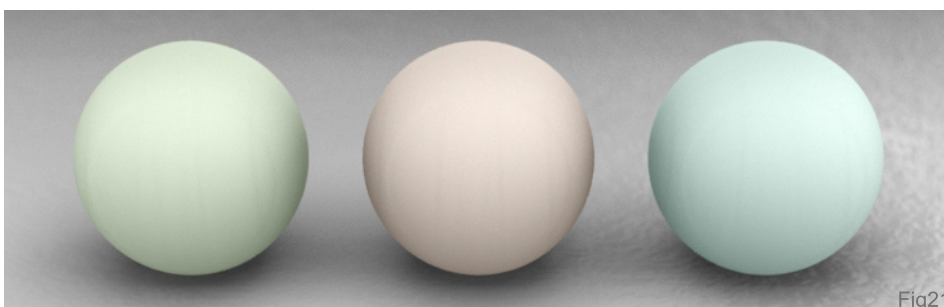
Fig21

geometry. However, the sphere to the right has something odd: the detail is shown on the face of the sphere, but you don't see that detail on the visual border of the sphere. This is because bump is a visual illusion that simulates details on a surface. It fails when the detail applied is big enough to realise it is not affecting the geometry, just as our sphere to the right (Fig.23).

SMOOTHING helps us to smooth surfaces between edges. If you were to render your surface as it is, you would get a surface that shows each polygon face. In order to smooth them out, you have to activate the smoothing option. So far, all of our examples were done with the smoothing option turned on. By default, this option is deactivated when you create a new surface. There are two ways to activate this option. You can activate it during the creation of it, on the Change Surface pop-up panel previously explained. You

Fig22

can also activate it on the bottom part of the Surface Editor pop-up menu. Fig.24 show us the difference between turning the smoothing option on and off. The sphere on the left has the smoothing turned off; the sphere on the right has the smoothing turned on. The sphere on the left shows us a "faceted" look of our sphere, whilst the one on the right is completely

smooth. Both spheres are identical in their polygon structure. Turning on the smoothing option allows us to make a continuous surface of them. Our 3D objects consist of facets of polygons, even when subpatched, so we need a way to make it look continuous, which is what the smoothing option is good for. Fig.25 shows a screen-shot of the polygons that make our spheres.
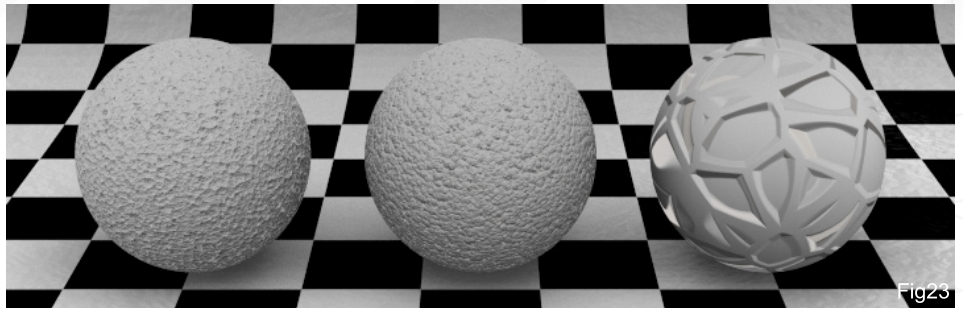
Fig23

SMOOTH THRESHOLD tells us when the smoothing of the polygons should stop. It is set by default to 89.53°. This surface will show a hard edge with no smoothing when it reaches such an angle. This could happen at corners which have 90°.

DOUBLE SIDED. By default, all surfaces have one side. In the real world, even a piece of paper has two sides, since it has volume. This does not happen in LightWave 3D. Surfaces are visible from one side only. If you see them from the other side, you will simply see through them. If you want to have surfaces that have two sides, you should activate the "Double Sided" option. All objects in nature have volume. Even a piece of paper seen by the side has a thickness. Using double sided polygons can help you to create objects such as paper and curtains - use it when you need to see both sides of the object, but when the object is too thin to be aware of its thickness.

Fig24

Fig25
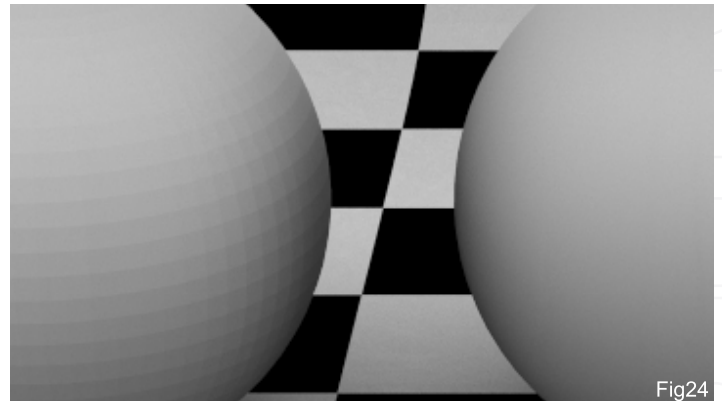
COMMENT. You can add a comment for each surface. This is helpful when you have a lot of surfaces. With it, you can better identify the location of the surface. You can put something such as, "This is the glass that is inside the bulb". Or perhaps you could comment on a web address which helps you, with reference materials, to build the surface.

E BUTTONS. You can animate textures in Layout. Whenever you see an E button, like the ones inside the Basic Tab in the Surface Editor, it means that you can animate that property. If you click on one, the Graph Editor window will appear. This window helps us to animate a texture. To deactivate this option, press <Shift> and <left click> the button.

T BUTTONS. Clicking on this will bring up the Texture Editor. The Texture Editor allows us to be more precise on how each channel (colour, diffuse, transparency, etc.) is applied. It allows us to make variations based on Image Maps, Procedural Textures and Gradients. Such concepts will be explained later on in this series. If you click on one by mistake, use <Shift> + <left click> to deactivate it.
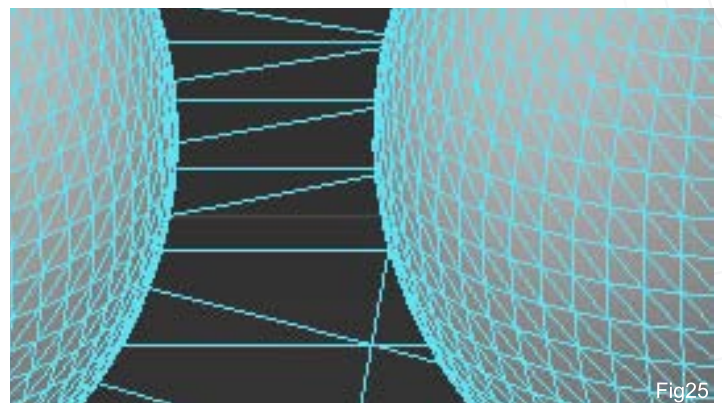
CONCLUSION

So far we have seen how to apply surfaces and how to add some basic properties to them by using the Surface Editor. Some advice has been given upon how to combine these values. There are still surfacing features to be covered in the following chapters. These however constitute a good start-up and show us where some of the important menus and values are, in order to get us started. We are now ready to get a little more into the lighting tools inside LightWave... [Next month in 3DCreative Magazine].

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In this 'Making Of', find out how to create the character, Tiny, from the old school cartoon classic: "Battle of the Planets"...

MAKING OF

TINY

BATTLE OF THE PLANETS

TINY

Created In:

3D Studio Max, ZBrush and Photoshop

Concept:

From my childhood memories I can remember watching Battle of the Planets after school, and as I grew up I thought about these characters, and they are now cooler than ever - amazed by their strong colours, bold designs and iconic silhouettes. So, I decided to create a character from the G-force team, choosing Tiny, simply

Fig01a
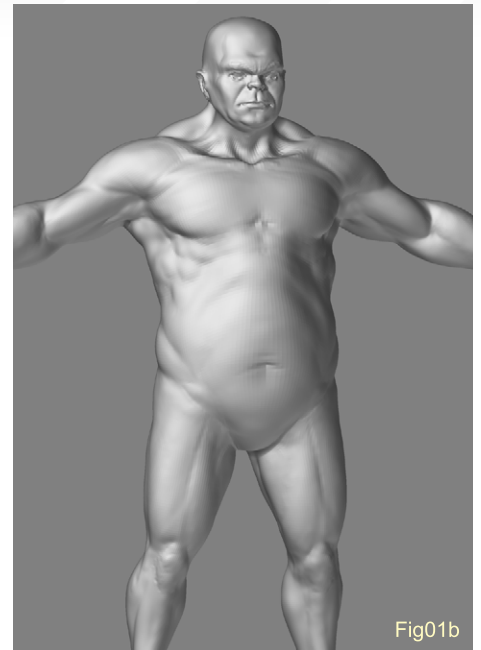
Fig01b

New Topology   3D Sketch
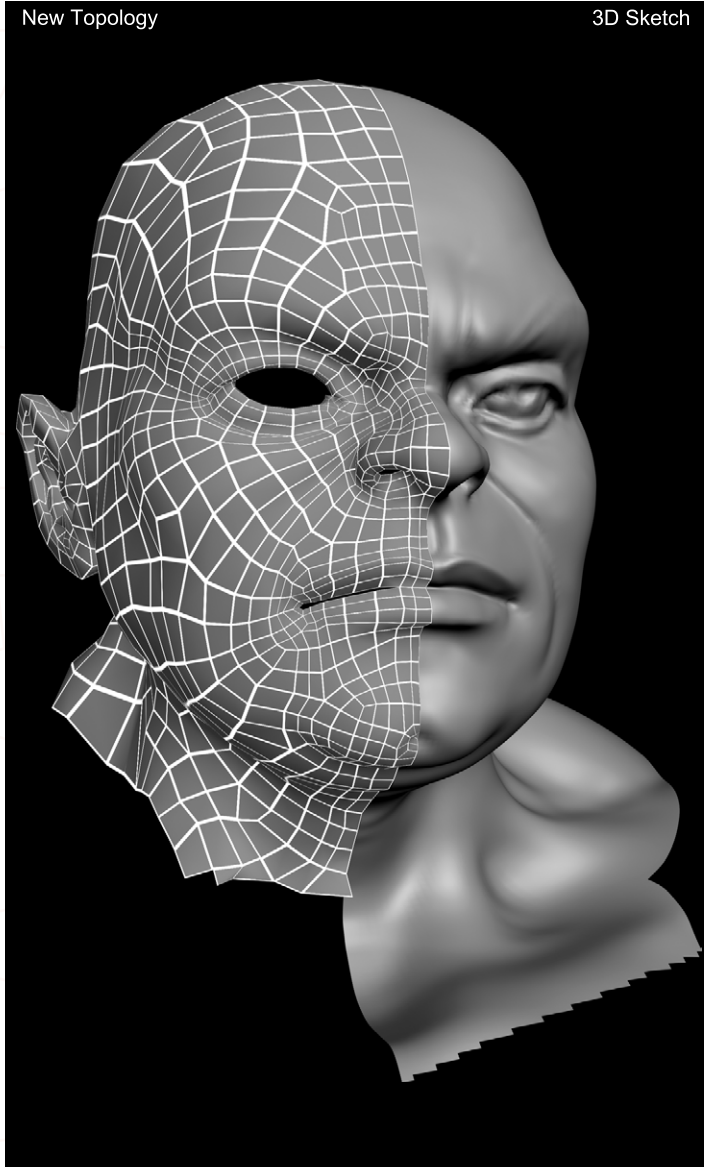
because I think he's probably the last choice people would make out the 5 members, yet he has one of the most unique designs and forms. As references, I gathered whatever I could find on the Internet. Main references included cover illustrations by Alex Ross, and screen captures of the original TV show.

Modelling

Initially, I blocked out the general form of the character in 3D Studio Max, to find the right proportions. With a very rough base mesh I took the model into ZBrush to further refine the form, which allowed me to be much more flexible in playing with the shapes and making rapid tweaks (Fig.01). This step was purely a quick 3D sketch, which I could then use as reference to rebuild my final polygon mesh in 3D Studio Max. At this stage, I left out the details like gloves and accessories. I find that this process can save me a lot of time than if I were to create a model with the same quality purely from 3D Studio Max. After blocking out, I had a good understanding of my character. I then started to build the character by building polygons directly on top of my 3D sketch imported from ZBrush. I did this by creating vertices with face snapping on, and then by joining them to form polygons (Fig.02). I did this whilst keeping in mind the topology for animation; as well as adding more details where I felt appropriate. For individual pieces which had more complex organic forms (e.g. head, gloves, boots etc.), I liked to reiterate the 3D sketching process to find more accurate shapes before I retopologised. For hard surface models (e.g. belt buckle, helmet etc.) I generally modelled with poly surfaces combined with the shell and mesh smooth to turn the surface into solid parts. Once I had all my models created I went back to ZBrush again for a detailing pass. This usually only includes the organic parts, such as the face. At this point I tried to push the details as much as possible, adding things like wrinkles and pores (Fig.03). I baked these details into a normal map to use in my

Fig03

Fig05
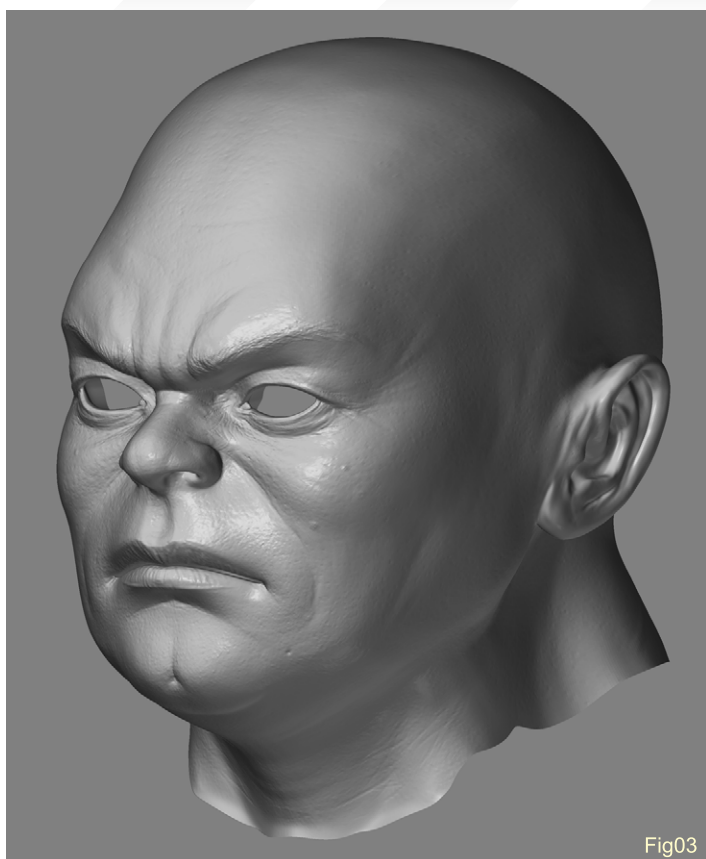
shaders; some people like to bake displacement maps instead but I find normal maps really give enough detail if your polymesh already has good forms.

TEXTURING AND SHADING

Apart from the face (Fig.04), textures for this character were very simple. Since the clothing and accessories are mostly very flat coloured, the texturing was at most complex with the textile or leather grains, with some stitching layered over, in Photoshop. Shading on the other hand was more complex. This character had many interesting shading types on him; skin, metal, leather, glass, and a swimsuit-type body suit. I gathered many photographic references for each of the materials and refined them over and over again until I was satisfied. This was also my first time rendering completely in Mental Ray, and so I also took the opportunity to learn more about Mental Ray shaders. The SSS Fast Skin Material (mi), Metal (lume) and Glass (physics_phen) were just some of the Mental Ray features that I used in the renders (Fig.05).

LIGHTING

I find fashion photography very good for lighting and posing references for character work, and have used it as reference in my own lighting. The lighting set up I made is fairly similar to standard 3-point lighting; the only difference is that I used 2 kick lights (one on each side), with variable strength, to give as much outline of the character as possible. I kept the key light and fill relatively dark to create a strong contrast with the strong kicks, but made sure there was a good range of tones to make the image interesting (Fig.06).

Fig04

Fig06

Key + Fill
Fig07a

Kicks
Fig07b

Ambient Occlusion
Fig07c
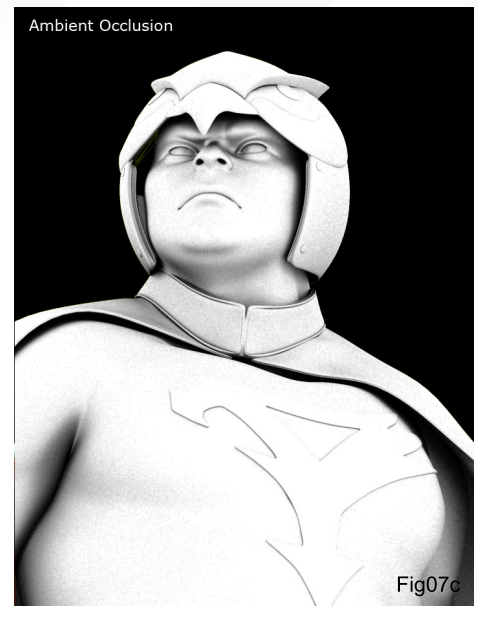
Rendering and Compositing

I like the flexibility of making as many tweaks as possible in Photoshop. So the rendering for this image consisted of many render passes; key light pass, kick light pass, reflections, ambient occlusion and material ID (Fig.07a-e). Compositing this image was fairly straight forward, since it is simply a character on a background. I stacked up the key light pass and kick light pass in Photoshop with lighten overlay. I like to make separate render passes with different lighting so that I can adjust the strength of each light by blending layers within Photoshop. However, with many complex shaders and dense geometry, each pass still took a fairly long time to render, so I only made a key+fill light pass and a kick light pass to keep things simple. The ambient occlusion pass can really help bring the picture to life as it can help to create an effect similar to global illumination lighting. I usually layer the ambient occlusion pass on top with a linear burn, or colour burn, to a degree natural to the eye. It could also be used as a mask to decrease reflection levels in darker areas.

Post Effects

To complete the image I added some atmospheric effects and painted a background to make the character "pop-out". I think it is important for the background to be interesting, but it must also be simple, as it is only there to bring out the focus: the character. I chose to paint an atmospheric lighting effect over the shoulder to pronounce the silhouette further. The circle frames the character and further enhances the focus which creates a graphical element suiting the comic nature of the subject.

Conclusion

Although it wasn't intentional, the final image did carry a lot of influence in style from Alex Ross. This is my first image created with the intention of creating a complete detailed character model, and I think I did a fairly good job on it. Overall, I am very happy with the result, and will practice more work of this nature in the future. The techniques covered within this overview can be applied to any CG project, and I hope you will find my workflow helpful to your own projects. "Finally I would like to give my special thanks to Anthony Puttee, a fellow workmate who was kind enough to help me on skinning Tiny for posing. His enthusiasm was also a great motivation to me in finish the work. Cheers mate!"
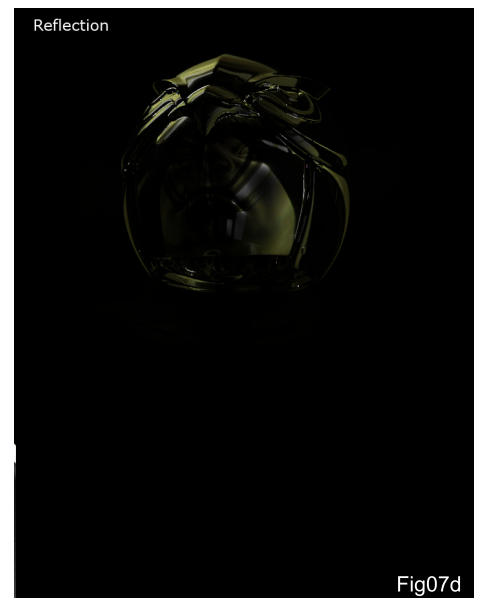
Reflection
Fig07d

Material ID
Fig07e

CHIH-HAN HSU

For more from this artist visit:

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Knocked Out

I'm very happy and proud to do this second Making Of article for 3DTotal and 3DCreative Magazine, the sister company of 3DTotal. I wil show you how I created "Knocked Out"...

"THE IDEA FOR THE IMAGE CAME FROM A SHORT SCENE IN ONE OF MY FAVORITE MOVIES "PULP FICTION". IN THE SCENE WE SEE ACTOR "BRUCE WILLIS" PLAYING THE CHARACTER OF A BOXER NAMED BUTCH"

Knocked Out

CREATED IN:

3D Studio Max 8.0, V-Ray 1.5, Photoshop CS, After Effects 6.5, MudBox 1.0

INTRODUCTION

The idea for the image came from a short scene in one of my favourite movies, "Pulp Fiction". In this particular scene, we see actor "Bruce Willis" playing the character of a boxer named "Butch", as he wakes up in a boxing dressing room after having a little nightmare just minutes before a big fight (Fig.01). Obviously, I didn't try to remake the exact scene, it was just inspirational for me

.SEARCHING FOR REFERENCES

I started with the search for good reference images for lockers and dressings rooms (sports related) (Fig.02). Then I searched for other references, such as props, boxers' clothing, rats, and basically everything that I wanted to appear in the final image (Fig.03-04). A few places for great references are: www.imagebank.com, www.dreamstime.com, www. photo.net, www.google.com, and www.morguefile.com.

Fig01

Fig04

Fig03

Fig02

Fig05

Fig06

Fig07

Fig08

Fig09

Fig10

MODELLING

In this part, I'm going to explain some of the methods I used to model the environment. I'm not going to talk about the character modelling, because there are a lot of excellent tutorials on the Internet, and on 3DTotal's website, about character modelling, so check them out. I started with a spline; drawing - from the top view - the actual plan of the room's walls (Fig.05). Then I used outline to determine the initial thickness (Fig.06). With editable spline vertex sub object, I changed the thickness (Fig.07). I added planes for floor and ceiling and booleaned a long box from the right wall to make a long window; using box primitives to make small window frames. I cut and extruded the walls to define the

hallways. Fig.08-09 shows how it looked from the inside and outside. I used cylinder primitives for the water pipes in the far right corner of the room, and box primitives for the acoustic ceiling; editable spline was used for the ceiling frame (Fig.10). I cut, rotated and deleted some of the ceiling plates and added electricity pipelines made from renderable splines. With editable poly I cut the wall corners for some damage details. Tip: you can add temporary omni lights inside the room which make it easier to see things in the view port, whilst working on things inside the room - just make sure you don't forget to delete them when you start working on the final lighting (Fig.11-12).

Fig11

Fig12
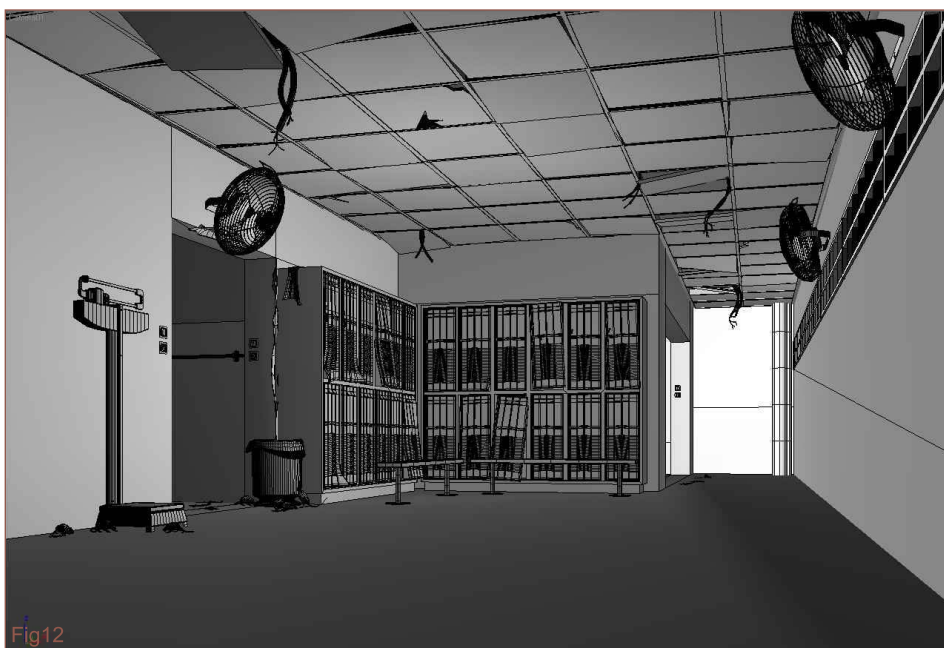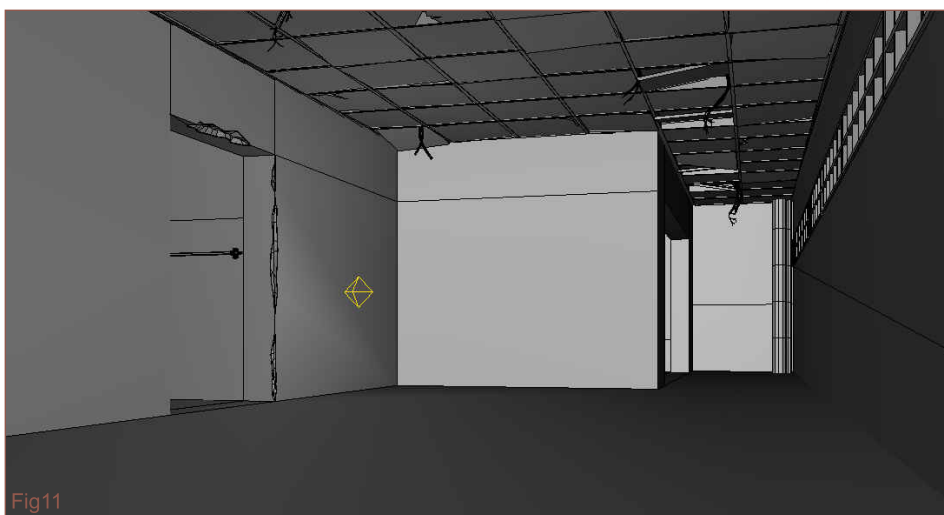
MODELLING THE FAN

For the cage of the fan, I started with a chamfer cylinder (Fig.13), and added an "Affect Region" modifier to blow it up a little (Fig.14). I deleted the back faces, as well as some from the front (Fig.15). I selected the edges, as shown in Fig.16, and pressed the "Create Shape from Selection" button from the Edit Edge rollout in the Editable Poly Edge mode. I turned this shape to renderable and set the thickness to the appropriate size, repeating this action to the selected edges, as seen in Fig.17-18. I used the same method for the back part, but this time I skipped the "Affect Region" action to get a different shape (Fig.19). For the blades, I drew the blade shape with a spline (Fig.20), applied the "Extrude" modifier (Fig.21), and then applied the "Twist" modifier (Fig.22). Tip: make sure you uncheck the "Optimize" checkbox from the Interpolation rollout, in the Editable Spline, and check the "Grid" checkbox in the "Extrude" modifier for smoother results in the twist action. I then created chamfer cylinders for the blade mechanism (Fig.23). For the back "hanger" of the fan, I started with a simple spline (Fig.24), then used chamfer on the two vertexes, as seen in Fig.25, and used fillet to round the corner of the splines (Fig.26). Next, under Spline Sub Object, I used outline to determine the thickness (Fig.27) and applied the "Extrude" modifier (Fig.28). I converted it to editable poly and booleaned cylinders to make the holes (Fig.29). I created a tube primitive and a renderable spline for the outer ring and the handle (Fig.30). Fig.31-32 shows all of the parts combined together.
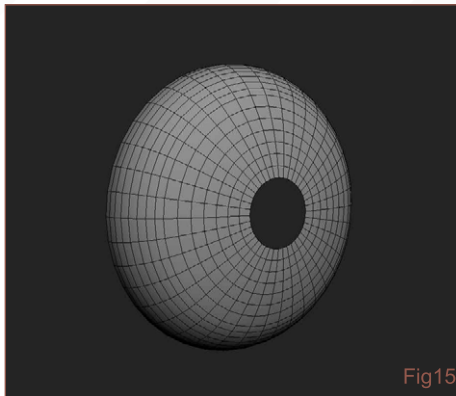
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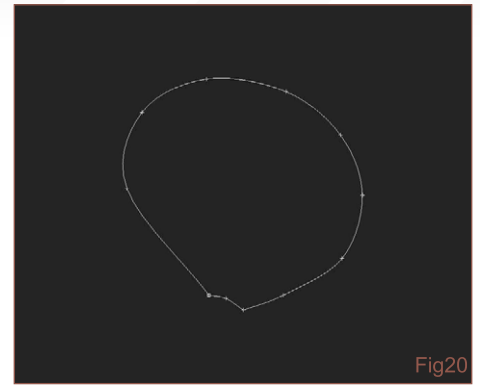
Fig16

Fig17

Fig18

Fig20
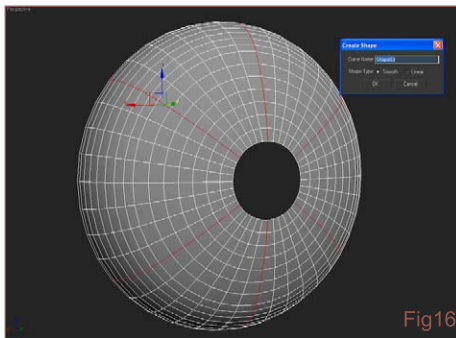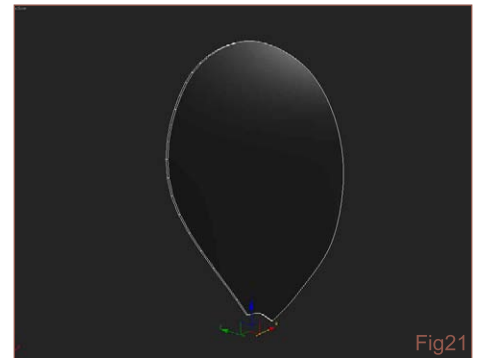
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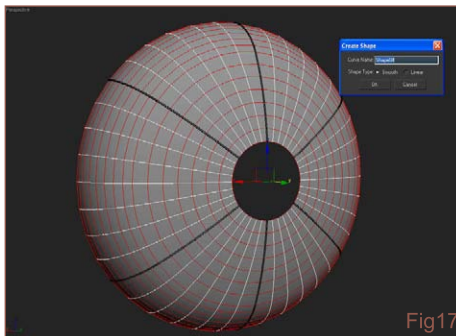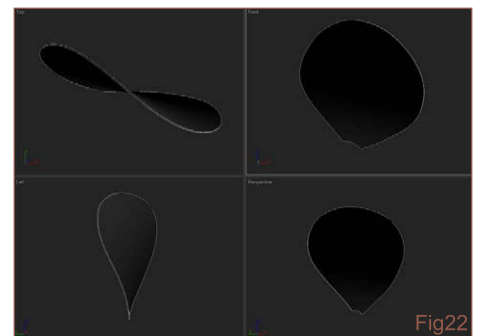
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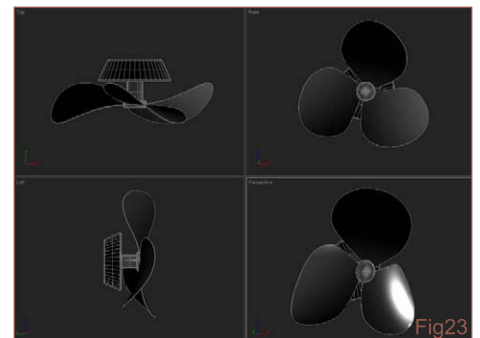
Fig23

Fig13

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Fig32
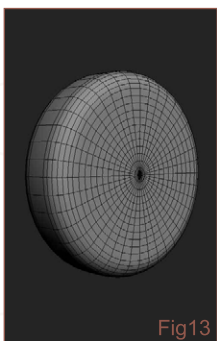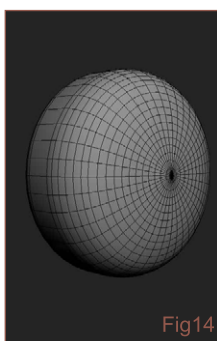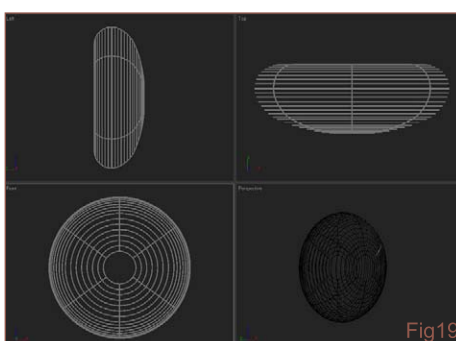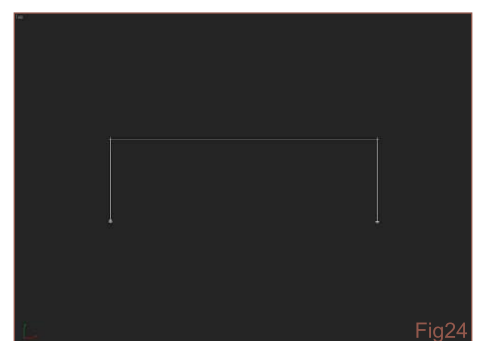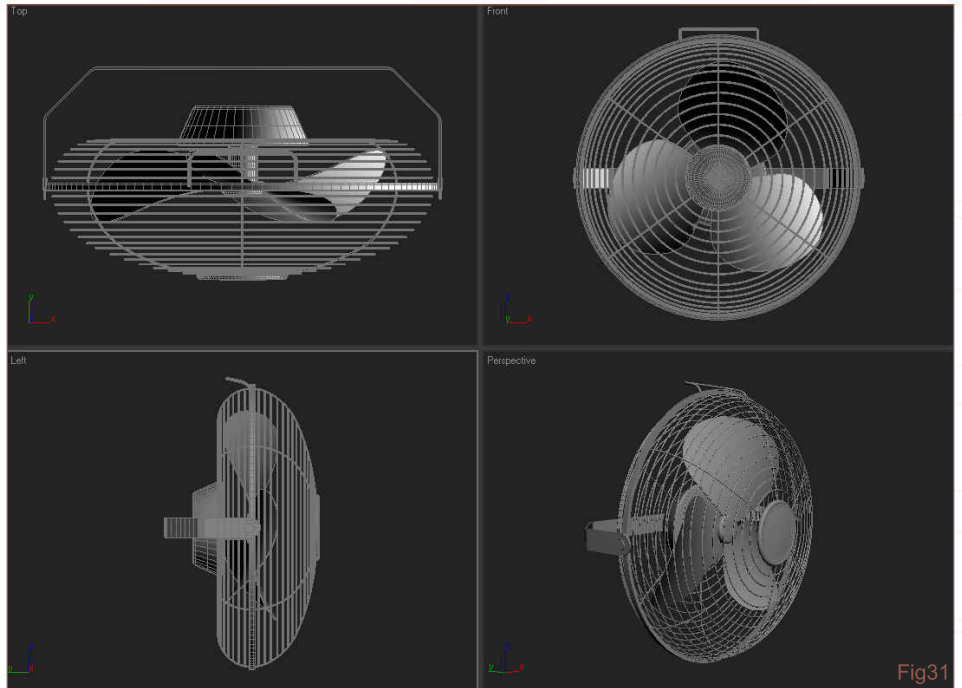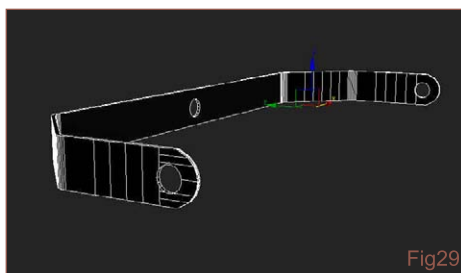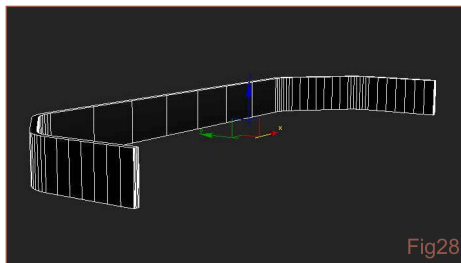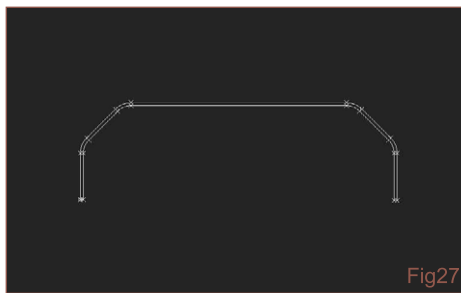
MODELLING THE RAT

I started by placing a background image, that I found in "Google Images". I then drew a spline along the image's contour line (Fig.33). I applied the "lathe" modifier (Fig.34) and, with edit poly, I adjusted the vertexes to make the body shape, trying to use soft selection when moving more than one vertex at a time (Fig.35). In the top view, I adjusted the vertexes again to make the shape closer to a rat's body shape (Fig.36). I cut and extruded the head polygons to make the ears (Fig.37). I drew a spline in a shape of a back leg and then extruded the back polygons along this spline (Fig.38). I added a symmetry modifier so that everything that I did on one side was then reflected on the other side (Fig.39). I did the same thing for the front legs and in editable poly mode I extruded some polygons to make the fingers and the nails (Fig.40). Before I started modelling the tail, I collapsed the modifier stack to get rid of the symmetry, and created the tail shape with spline (Fig.41), and extruded the back polygons along the spline, in the same way that I had done the legs (Fig.42-43). I made a very simple bone rig so I could duplicate and pose the rat in different positions (Fig.44).
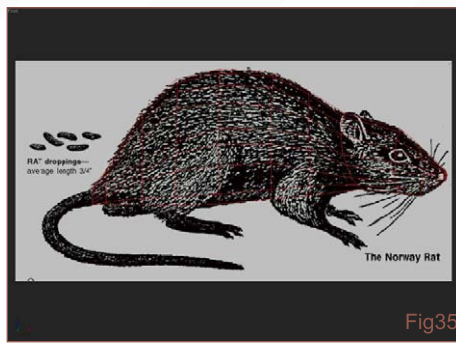
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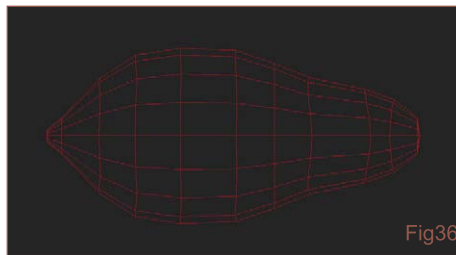
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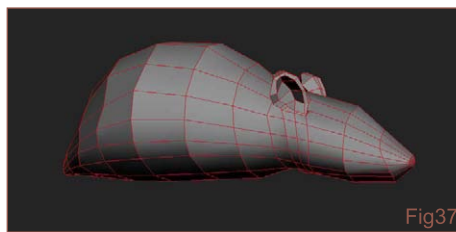
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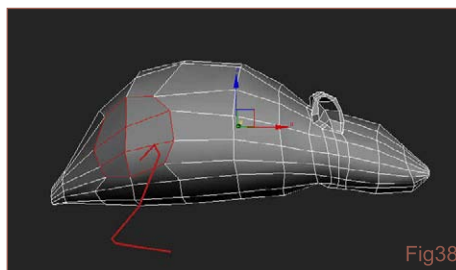
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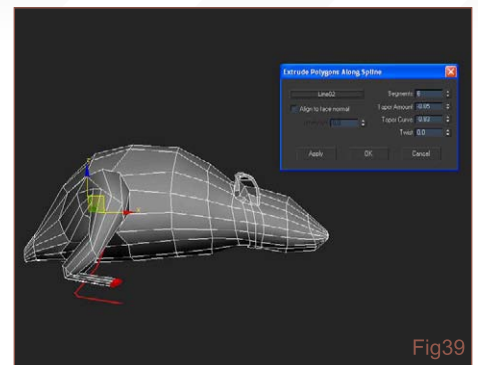
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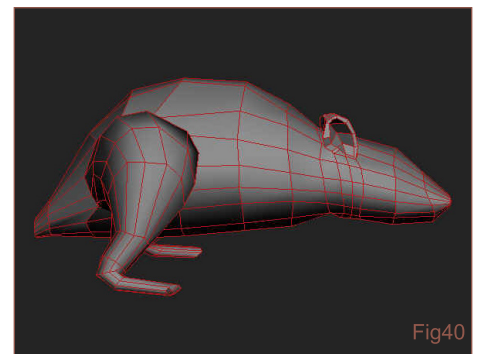
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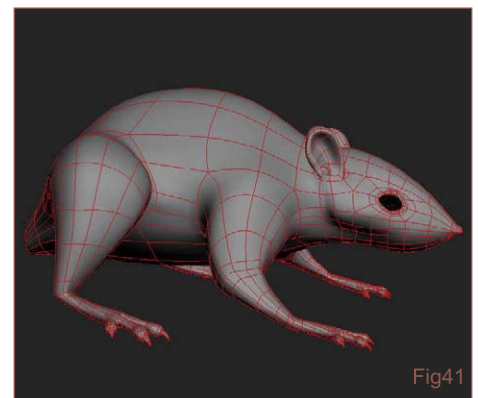
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Fig33
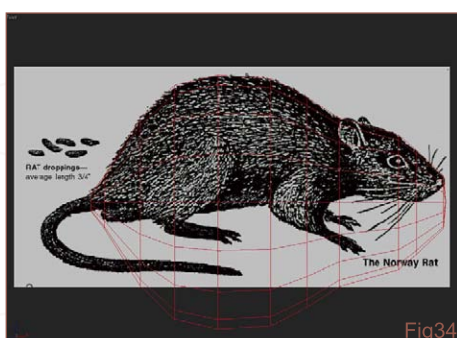
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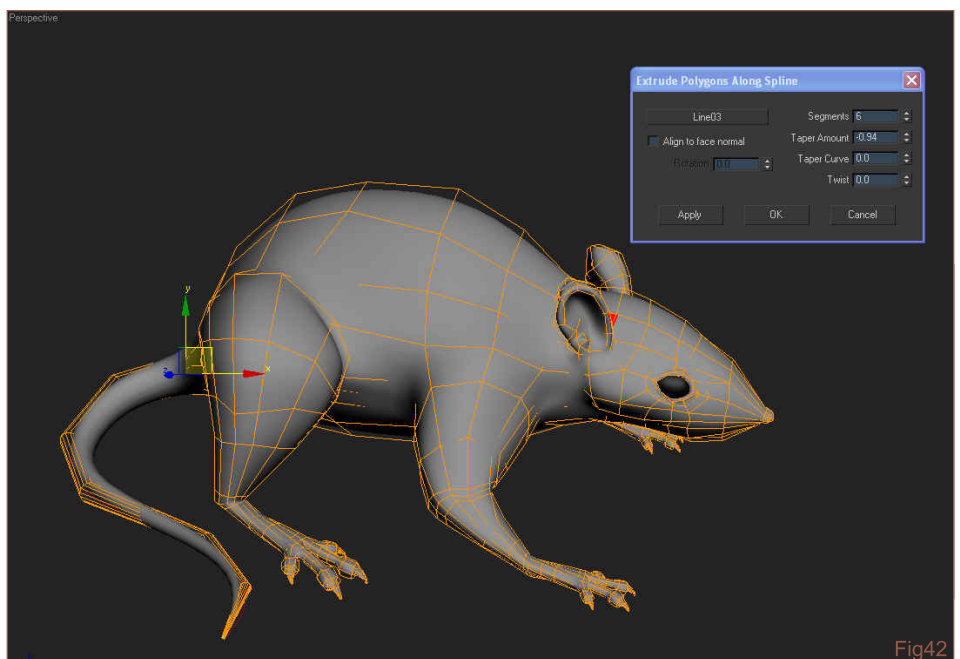
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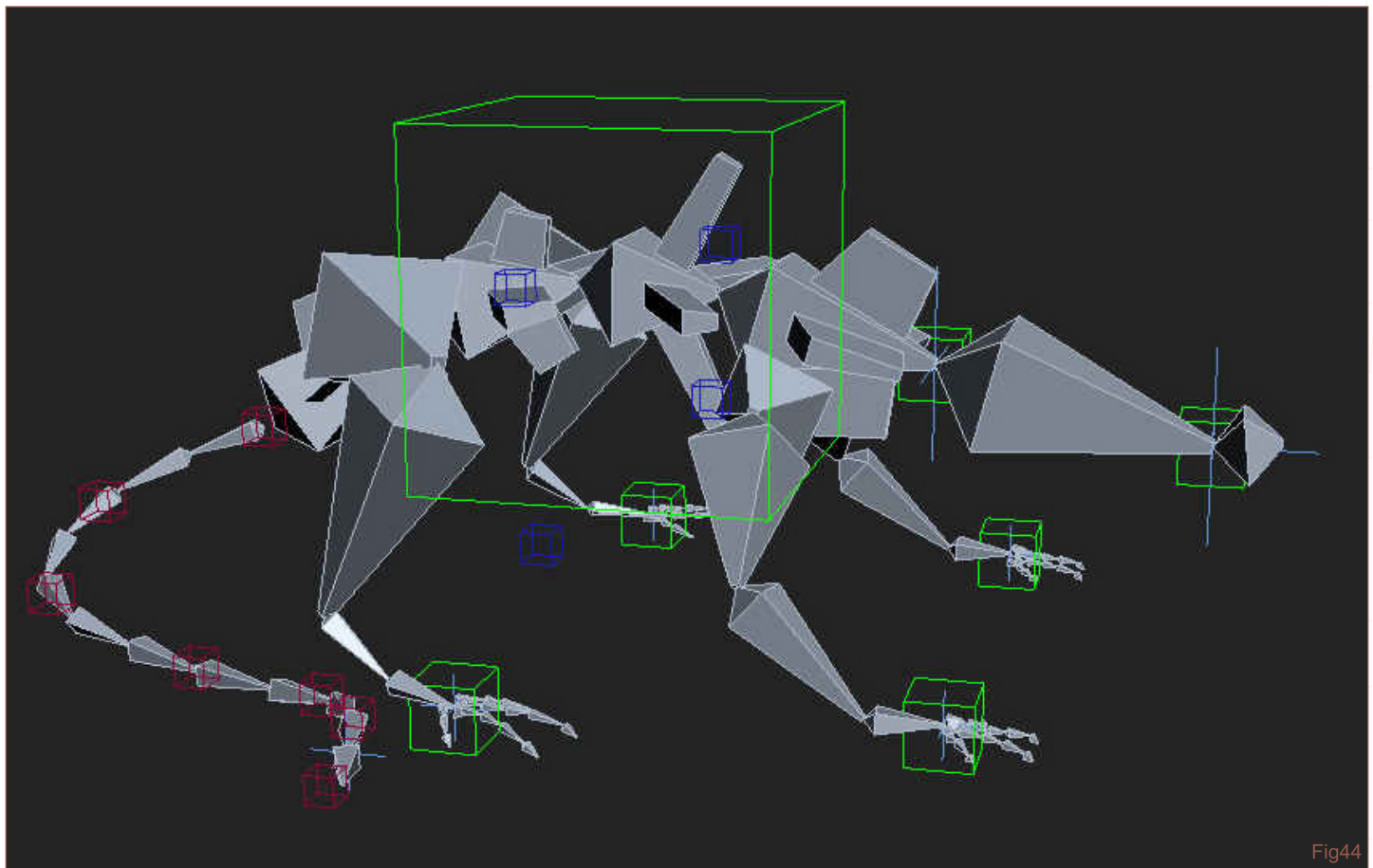
Fig44

MODELLING THE GARBAGE CAN

I started with the body of the garbage can, by drawing a spline in a shape of the can profile (Fig.45). I then lathed it (Fig.46), and did the same with the garbage bag (Fig.47-51). Next, I converted the garbage bag model into an editable poly, and in vertex sub object and soft selection turned on, I moved the vertexes to create folds and distortion (Fig.52). I then subdivided the first two rows of polygons and added push modifier (Fig.53), noise modifier (Fig.54), and turbo smooth modifier (Fig.55-56).
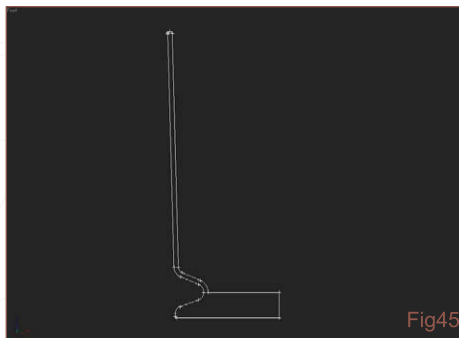
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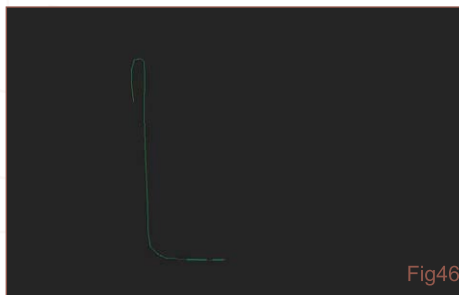
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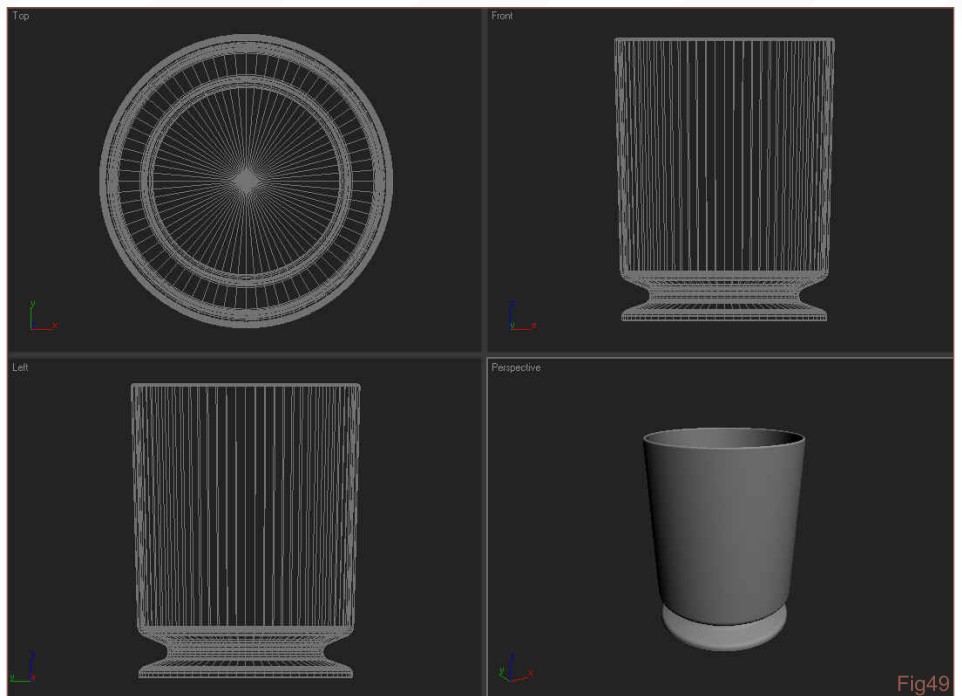
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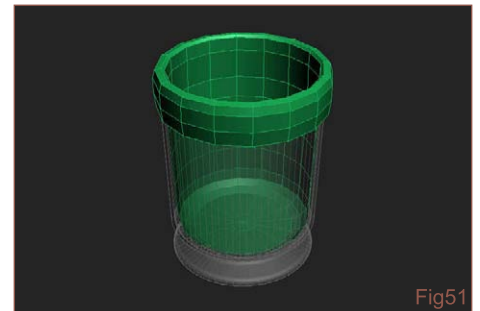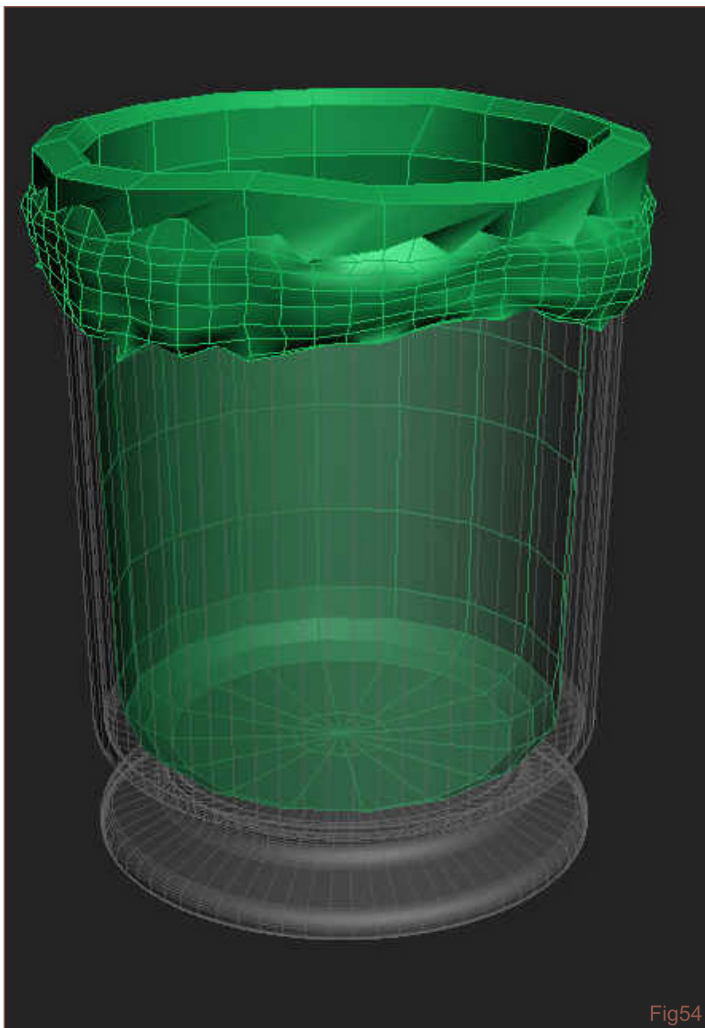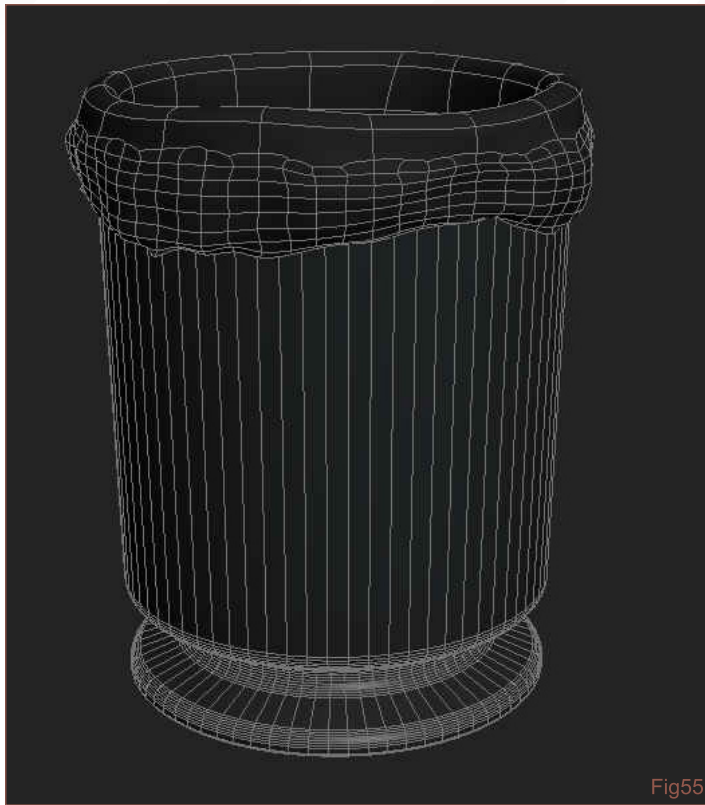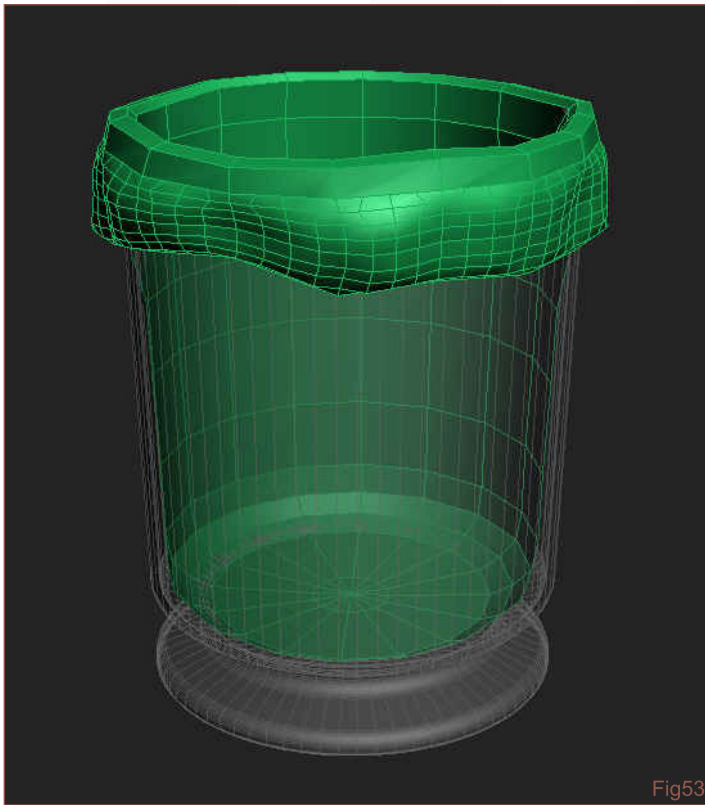
MODELLING THE LOCKERS

For the lockers cells, I started with a box primitive (Fig.57), converted it to editable poly and used the "Insert" command to scale-down the front polygon, and then extruded it inside a little (Fig.58). Then, I booleaned 12 smaller boxes from the main box to create the cells, and converted it again to editable poly (Fig.59). For the doors, I started again with a thin box primitive (Fig.60) and deleted the back polygon and scaled down the front one (Fig.61). I selected the vertical edges and used the "Connect" button to cut them in the upper part (Fig.62). Then I used chamfer to split them up a bit (Fig.63). I selected the horizontal edges and used the connect button again to cut them (Fig.64). I switched to polygon sub object mode and used the "Hinge Polygons from Edge" command to create the little upper slot of the door (Fig.65). Then I deleted the slot's bottom polygons (Fig.66), and repeated these steps to make the other slots (Fig.67). Finally, I added turbo smooth (Fig.68) and duplicated the door for each cell opening (Fig.69) with vertex sub object selected. I pooled out some vertexes with the soft selection mode, and turned on to create bumpers and damage to the doors (Fig.70-71).
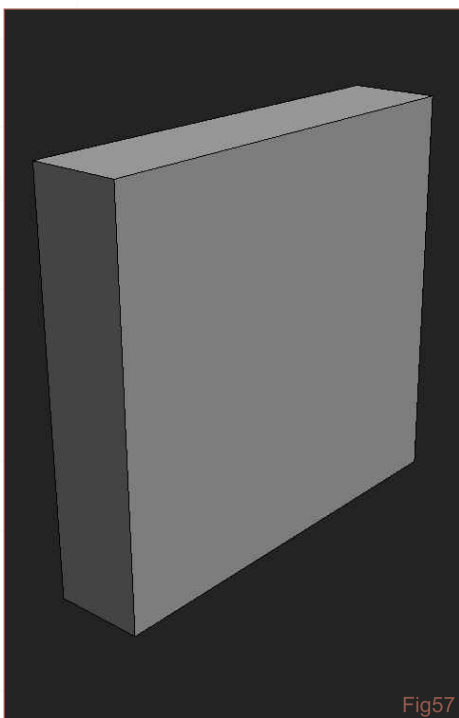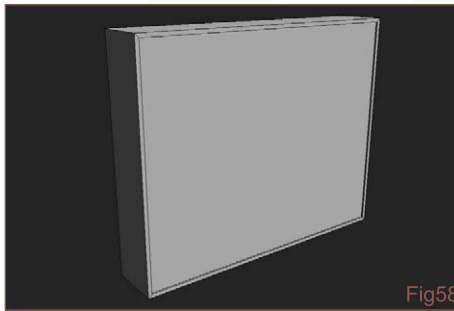
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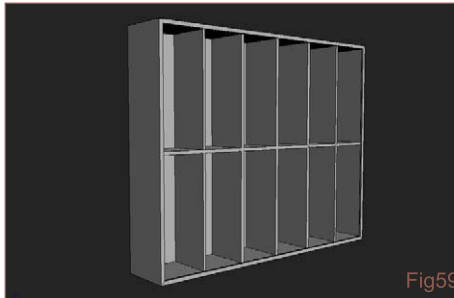
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Fig60

Fig61

Fig57
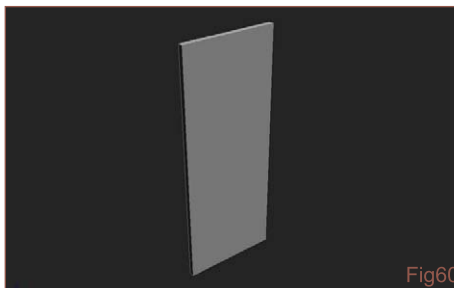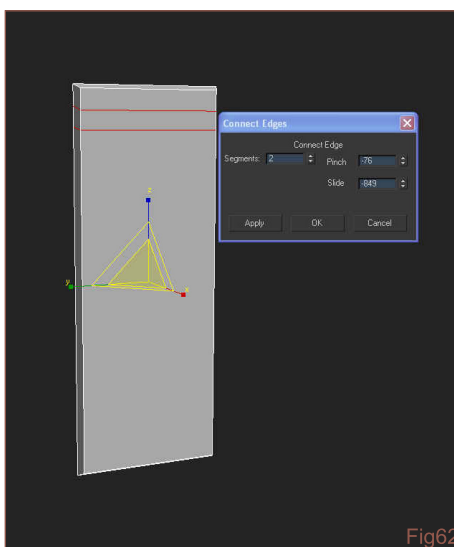
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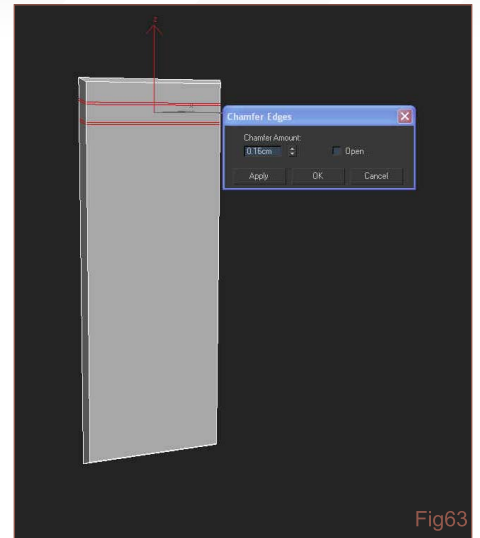
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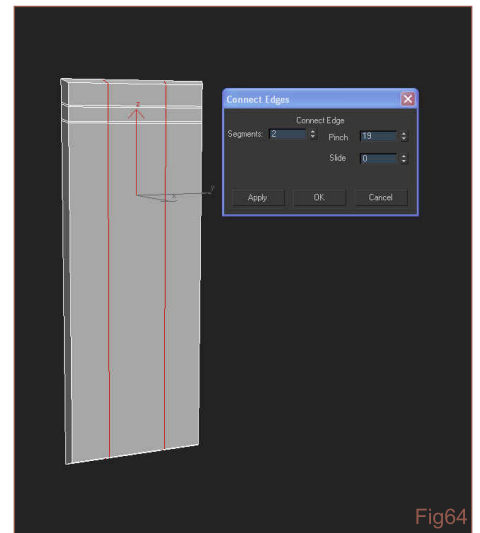
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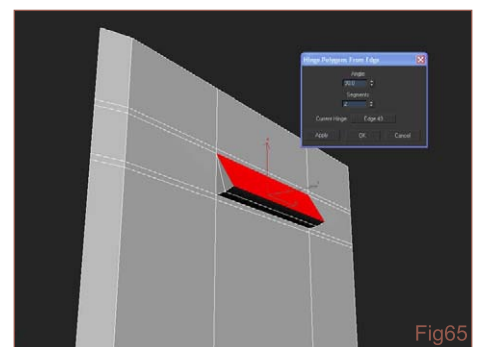
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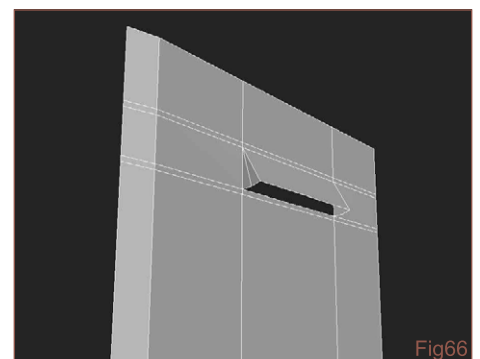
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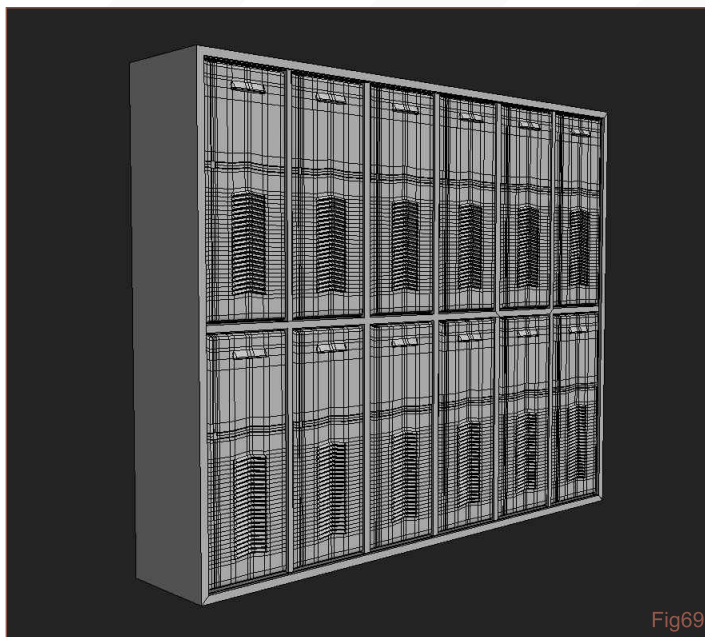
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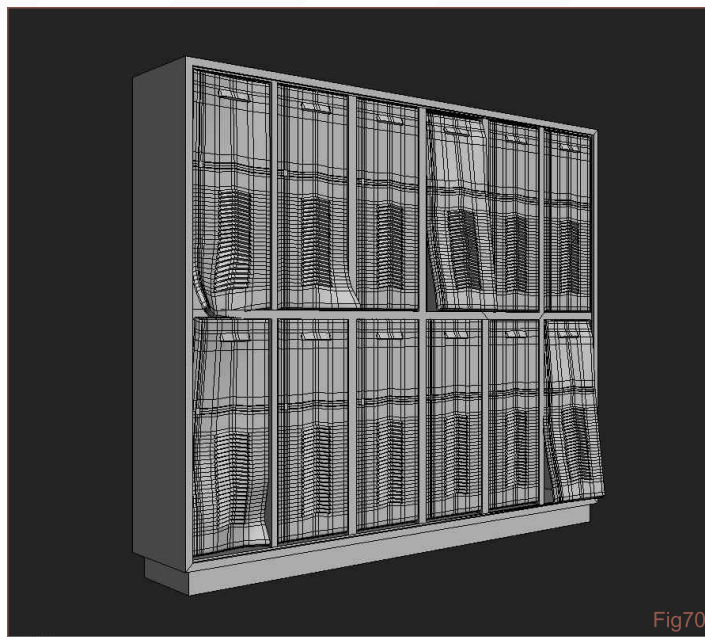
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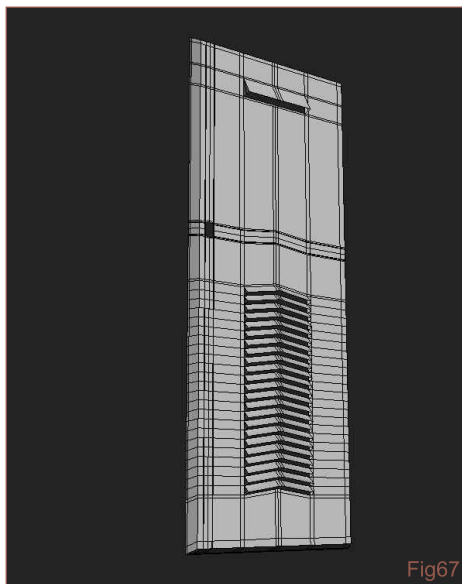
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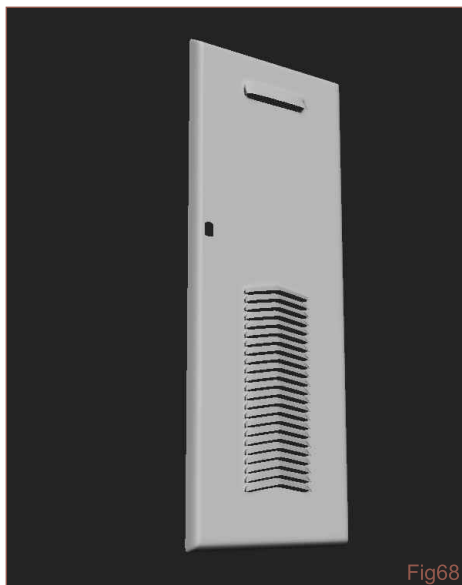
Fig68

Fig71

TEXTURING

90% of the base textures that I used came from 3DTotal's great texture CDs. Before I started to paint the textures I laid out the models UV's. For simple models, like the bed's metal parts and the garbage can, or the scales, I used regular UVW mapping (planar, box or cylinder), and for the room and the character I used the UVW unwrap modifier. I wanted to be able to control the wall texture in a single map so that I could maintain continuity with all sides of the room's walls, so I laid out the wall's UVs on a single map and set the resolution to 5000 pixels long, to get good results in a close-up render. Fig.72 shows the wall's UV map. The base textures that I used for the walls (the posters were found in "Google Images") can be seen in Fig.73. The final wall's map, with close-up in full resolution, can be seen in Fig.74. For the floor, I used a different map on different UVs and gave the shader a slightly glossy reflection. The floor texture breakdown can be seen in Fig.75. For the ceiling, I used simple planar mapping on each square and created four different maps, and then spread them randomly across the ceiling squares. The ceiling texture breakdown can be seen in Fig.76.

Final Wall Texture
Fig74

Walls UV Layout
Fig72

Wall Textures
Fig73

Darken | Background
Multiply
BOXING.
Floor Textures
Fig75

Background | Overlay | Hard Light
Multiply
Acustic Ceiling Textures
Three more versions
Fig76
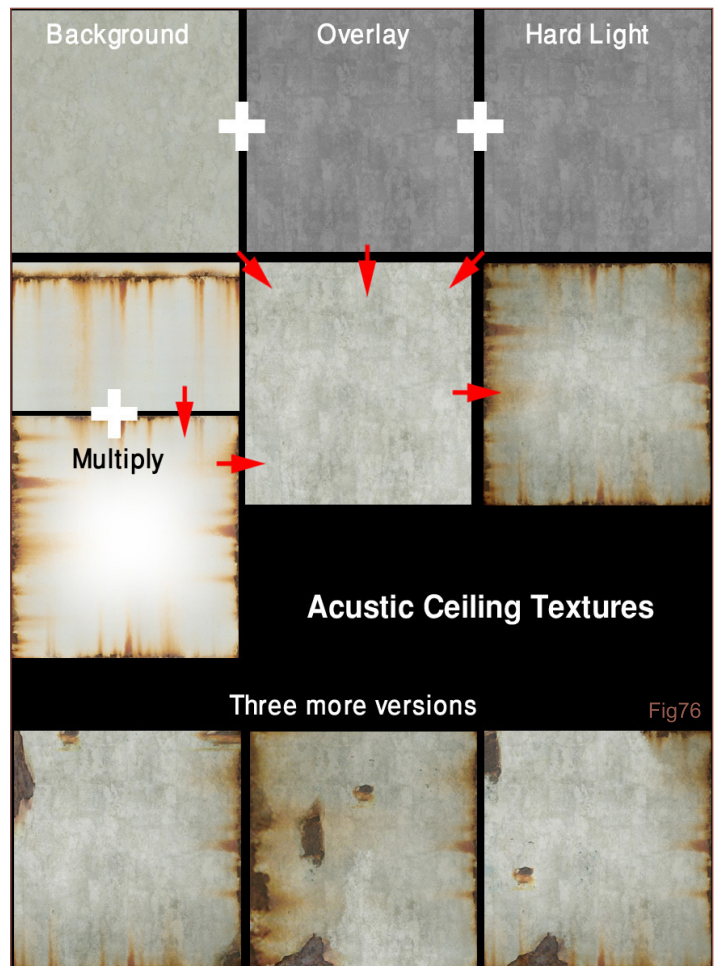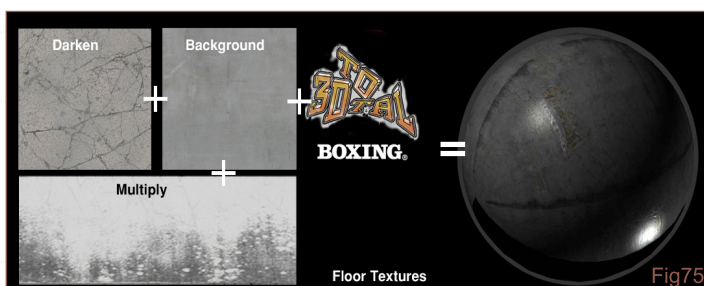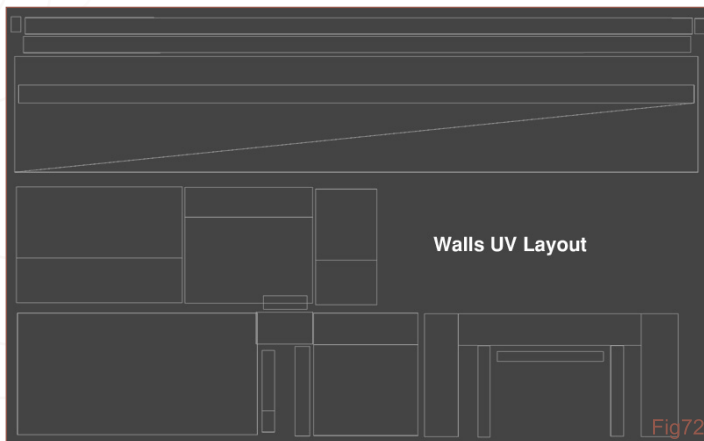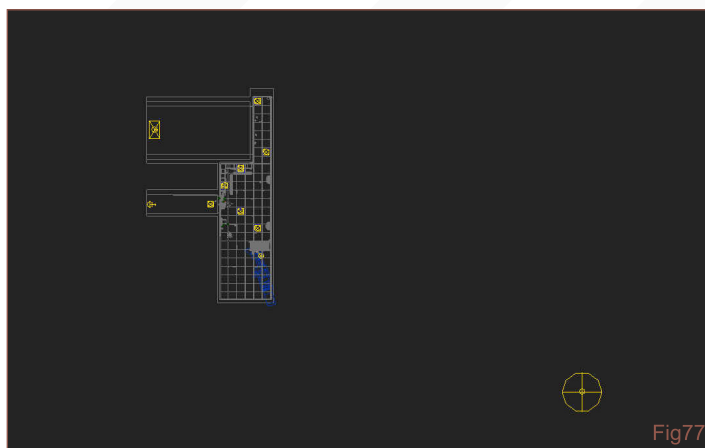
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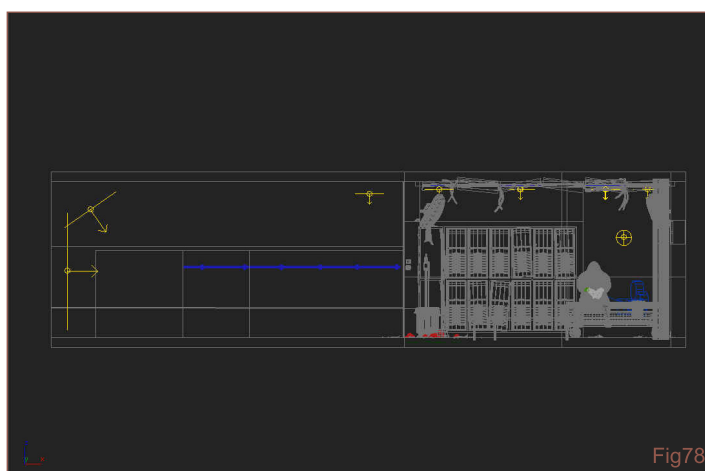
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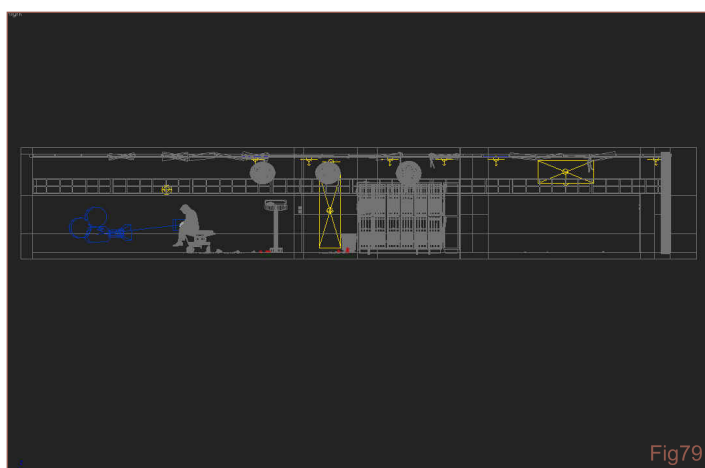
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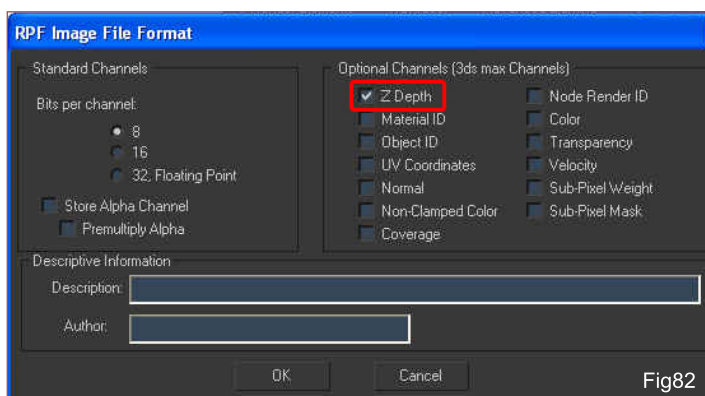
Fig80

Fig81

Fig82
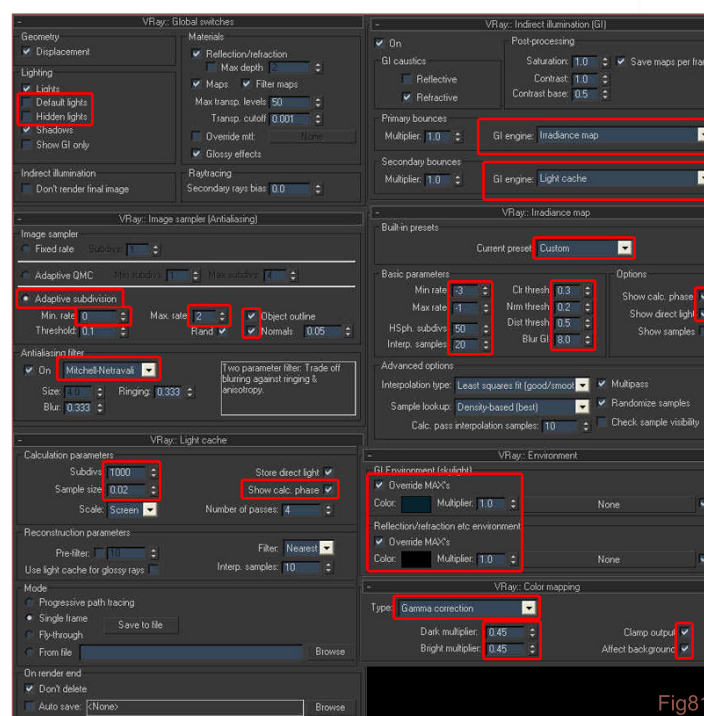
Lighting and rendering

I started to set up lights before I made the textures, which was important to see how the shaders and textures reacted to the lights and shadows. I made changes along the way to achieve the desired result. I used CEBAS - "Final Glow" plug-in for the glow effects on the light models. Eleven V-Ray lights were used to light up the whole scene. The light setup from different angles can be seen in Fig.77-80. The rendering time was 2 hours, 2 minutes and 11.7 seconds, for a resolution of 1280x1024. The render parameters I used (all the rest remain at their default settings) can be seen in Fig.81. Finally, I rendered the image in .rpf file format and checked the Z depth check box so that I could apply depth of field later on in After Effects (Fig.82). I rendered one pass for the character and the bed, and another pass for the room and props. I did that to avoid bad antialiasing, and other artifacts, that tend to appear after applying DOF with .rpf file format.
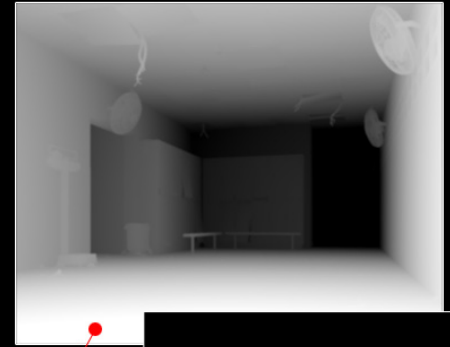
Final image after color correction
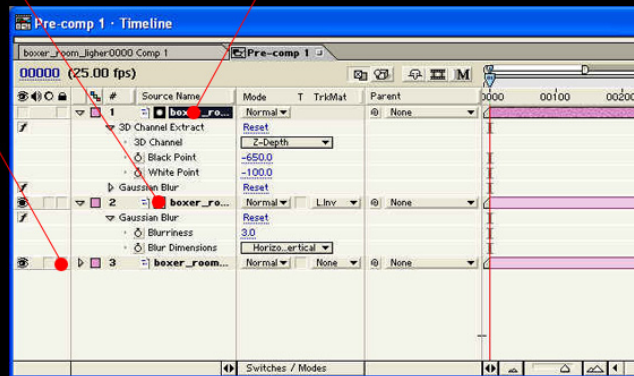
Fig83

COMPOSITING

As I mentioned before, I used Adobe "After Effects" to composite the final image. In "After Effects" I opened the room render pass in a new composition and duplicated it three times; the first layer (bottom one) remained the same, then on the middle layer I applied a "Gaussian blur" effect. On the last layer I applied the "Extract 3D Channel" effect and set it to Z-Depth, then I changed the black point and white point to get the right balance. The middle layer uses the first layer as a Track Matte, set to "Luma Inverted Matte", and the breakdown of the layers can be seen in Fig.83. Well, that's about it. I hope this will be interesting and helpful for you. I enjoyed making this article and I must thank you all for reading it. If you have any questions, comments, criticism or anything else that you want to share with me, please send me an e-mail and I'll try to get back to you as soon as possible.
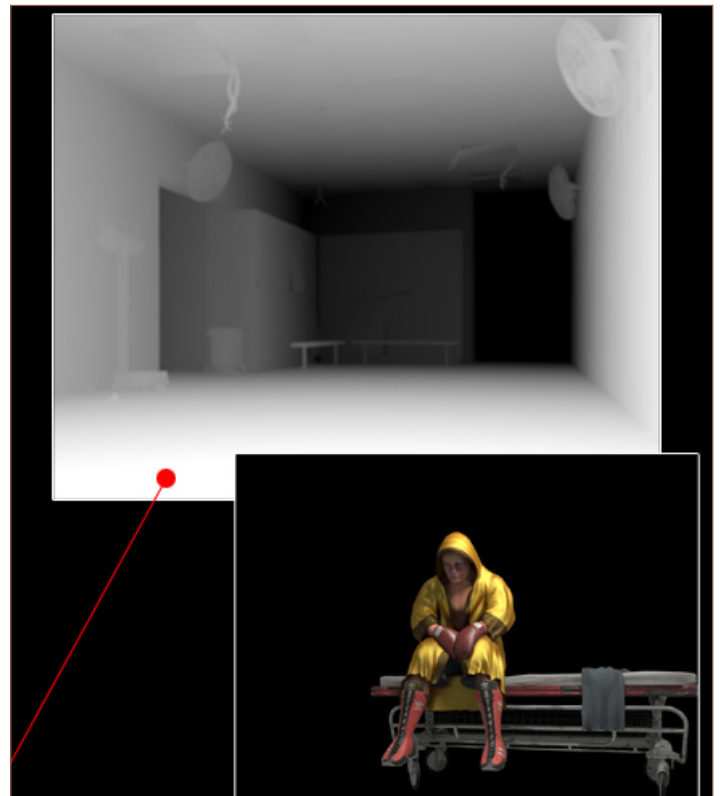
ILAN COHEN

For more from this artist visit:

www.ilanavital.com/ilan.html

Or contact:

cilans@gmail.com

FLOWER

messenger

"THE CHARACTER
IS ALMOST TOTALLY
CAMERA BASED; MOST
OF THE ELEMENTS ARE
MODELLED
AND RIGGED
FOR THAT
CAMERA, AND
THAT CAMERA
ONLY..."

In this 'Making Of' we see
how Ziwen Zhang created
his uber colourful "Flower
Messenger", without
the use of third party
programs...

FLOWER MESSENGER
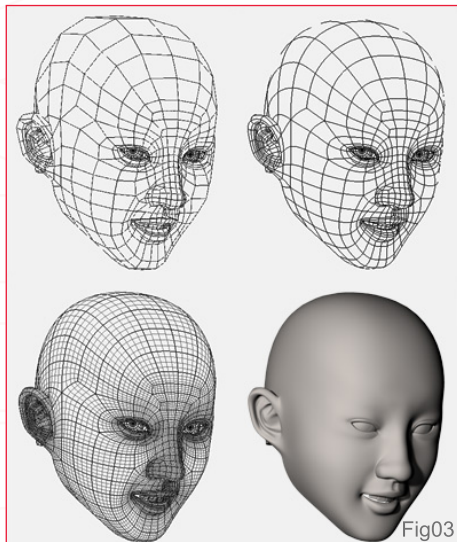
Fig03

CREATED IN:

Softimage XSI, Photoshop

INSPIRATION:

One of my colleagues suggested for me to make a portrait. I then set my target on Liu Yifei, a young Chinese actress. She is now quite famous in China, which makes it very easy to find tonnes of reference images on the Internet. I eventually found one image of her from a TV show. The level of details of her costume totally amazed me, and so I decided to take that as my final reference.

MODELLING:

Although the details are focused on her hair accessory and dress, you can't call it a good character without having a good facial mesh. I started the head in Softimage XSI, using around ten photographs to check the resemblance from different angles. When I had about 80% resemblance, I used the final reference for adjusting mainly small areas that helped to form her facial expression (Fig.01-03). I didn't know much about ZBrush and didn't have time to learn it for this project. So, I used my old technique and modelled all of the folds on her

Fig01

Fig02

Fig04
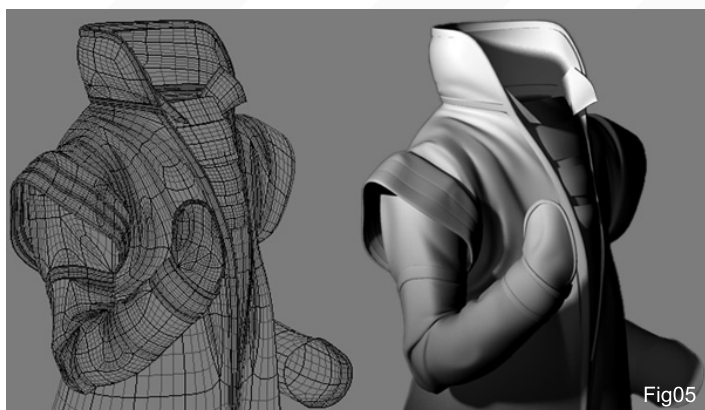
Fig05

Fig06

dress (Fig.04-05). The hair accessories was not hard to make. I modelled two objects: a round shape and a sharp shape. After duplicating those a couple of times, I located their final position by rotoscoping (Fig.06). The character is almost totally camera based; most of the elements are modelled and rigged for that camera, and that camera only. Therefore, objects like her hands were modelled in natural pose, then rigged afterwards to match the reference image. I ignored every spot where the camera could not see, to save time and trouble (Fig.07-08).

Fig07
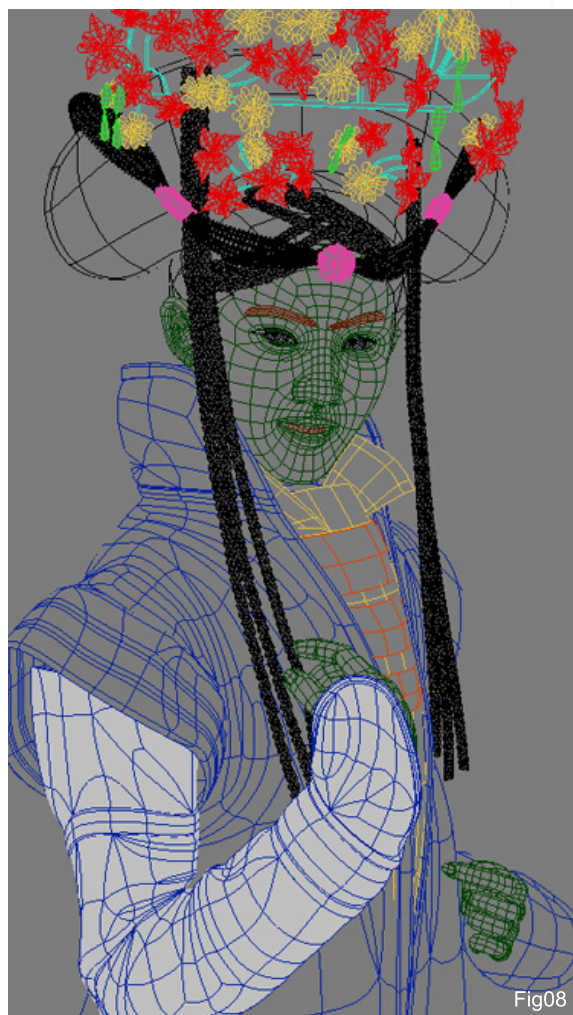
Fig08

Fig09

Fig10
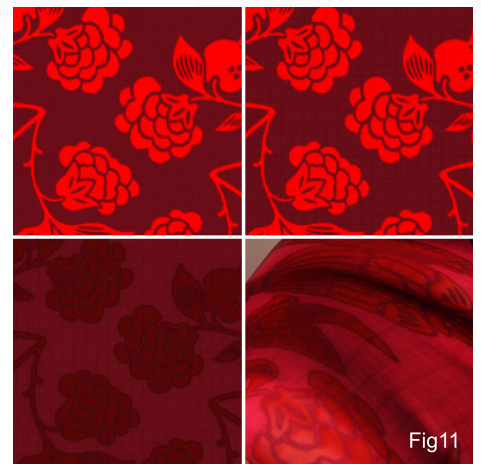
Fig11

TEXTURING:

Many people like her dress. Personally, I also believe that the quality of the dress pushes the image to a certain level. The making of the dress texture was in fact quite simple. The difficult part was finding out how to make it. Due to the limited resolution of the reference images, I couldn't identify most of the shapes of those details on her dress. After weeks of attempting, from different approaches, I still couldn't get the correct resemblance, which is where the idea of "flower messenger" took place. Since her hair accessories are formed from dozens of flowers, why not make her dress the same? By doing that, her identity is clearer and more visible. Perhaps I should name her the "Goddess of Flowers"? So, I found several flower patterns, and used them as alpha map in Photoshop. Instead of creating a bump map, normal map or displacement map, I simply used layer effects in Photoshop to simulate the bump effect (Fig.09-10). The result was surprisingly good (Fig.11).

Fig13
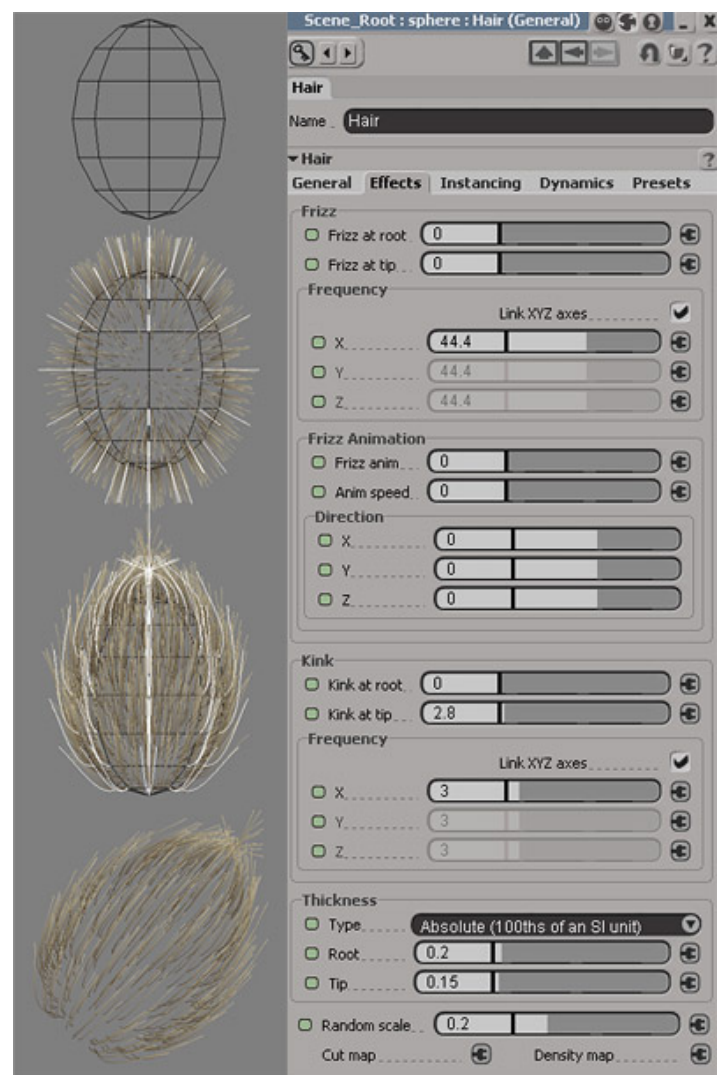
Fig12

MAKING THE HAIR:

Making hair is always, comparatively, very long and hard. To reduce the amount of work and rendering time, I created partial hair to cover those areas visible to the camera only. For example, I used two ellipses as a base to generate the hair, and then placed them at the two ends of her hair bun. The centre of her hair bun gets covered by the hair accessories, so I didn't have to worry about it (Fig.12-13).

Fig14

Fig15

Fig16a

Fig16b

Fig17a

Fig17b

Fig18a
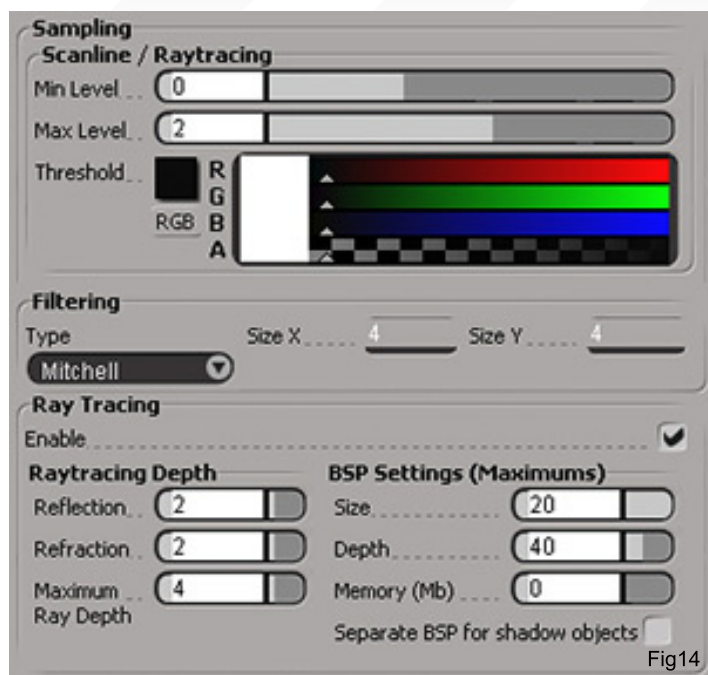
Fig18b

Rendering:

The lighting set was formed by several spot lights and two point lights; one key light for the character, one key light for dress, a couple of supporting rim lights, and two point lights for the reflection on her eyeballs (Fig.15). I used Mental Ray for rendering. The advantage of using Softimage XSI is that I could render multiple passes; character pass, background pass, ambient occlusion pass, Z-depth pass, and couple of mask passes that helped me later on when retouching (Fig.14).
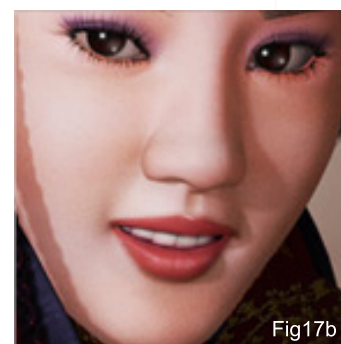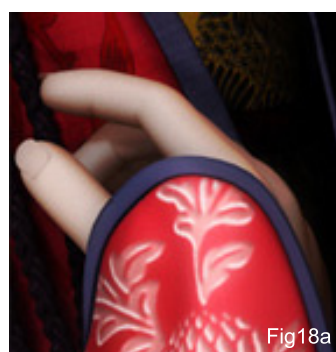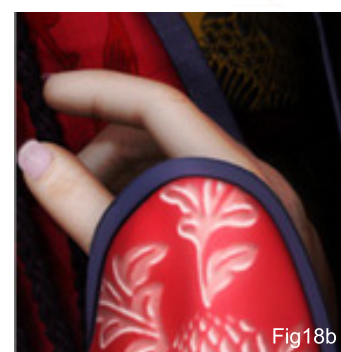
Final compositing:

The final compositing was done in Photoshop. I added bloom on her dress and face, hand-painted some more hair, corrected a few areas of her face and hands to cover the bad spots, and after a day of retouching, I achieved my final image, "Flower Messenger" (Fig.16-19).

Ziwen Zhang

For more from this artist visit:
http://jackzhang.cgsociety.org/gallery/
Or contact:
zhangziwen1101@hotmail.com

Fig19

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Tug-Tug

3ds max

Is our new precise, step-by-step tutorial which will begin with a vehicle model and cover the principals of applying shaders, placing it in a simple scene and following with a two-part section on both lighting and rendering. The tutorial will begin by creating and applying materials for the various parts of the car, such as glass, chrome and tyres, as well as texturing some simple geometry that will make up a scene. It will then move onto lighting where the focus will be on setting up a lighting rig and the various parameters connected to this. Finally the series will culminate with a section on rendering, where the aim will be to finish with a polished image. The schedule is as follows:

Enjoy ...

LIGHTING SETUP & RIG (WITH HDRI) PART 2

This month we'll use an HDRI map to create a more realistic lighting for our Tuc-Tuc scene. We'll also have a look at how Exposure Control can affect the final look of a rendered image.

1. Let's start by opening the TucTuc_HDRI Max file. It's the usual Tuc-Tuc scene, as in the previous parts of this tutorial, and it does not have Indirect Illumination at the moment; there's just a Spotlight casting shadows in the scene (Fig.01).

2. Now let's create a Skylight and position it where you would like it to go (the position of the Skylight does not really affect its behaviour) (Fig.02). Also try setting its intensity to 1,3.

3. Open the Render panel; go to the Indirect Illumination tab and then follow into the Final Gather rollout. Enable "Final Gather", and set its samples to 100; then pump up its "Max Depth" value, to something like 10, and make sure that "Rebuild (Do Not Re-Use Cache)" is enabled (Fig.03). Render the scene, and you should get something similar to the rendered image in Fig.03. The scene is not as dark as it was before, and there's also some indirect illumination from Final Gather and the Skylight.
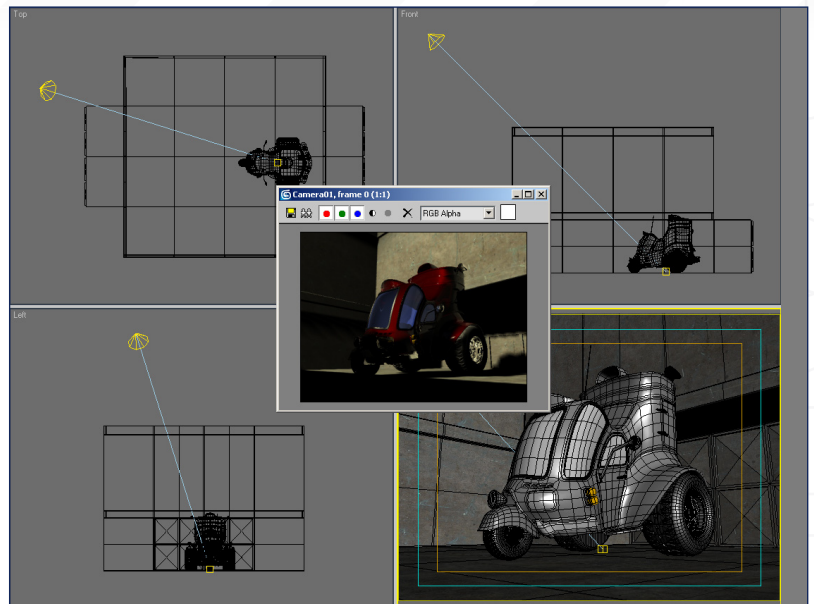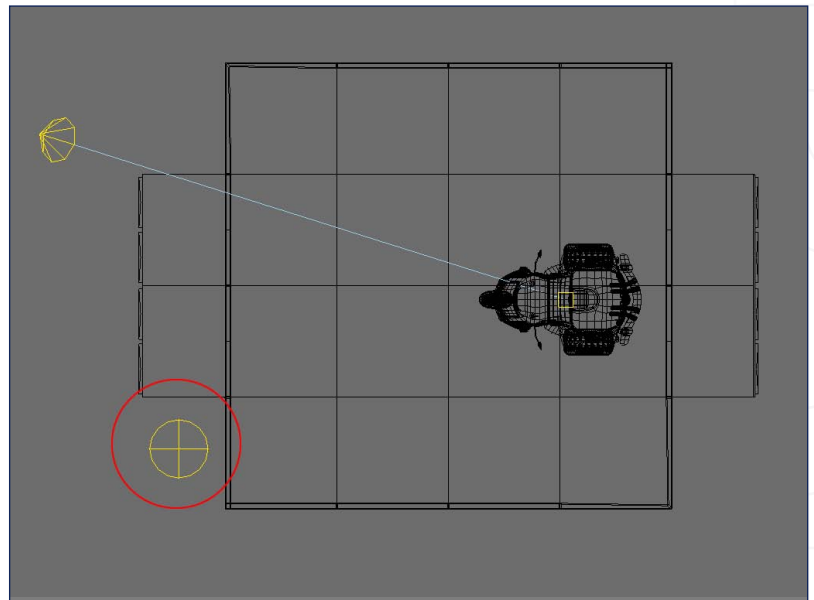
Fig 01

Fig 02

Fig 03
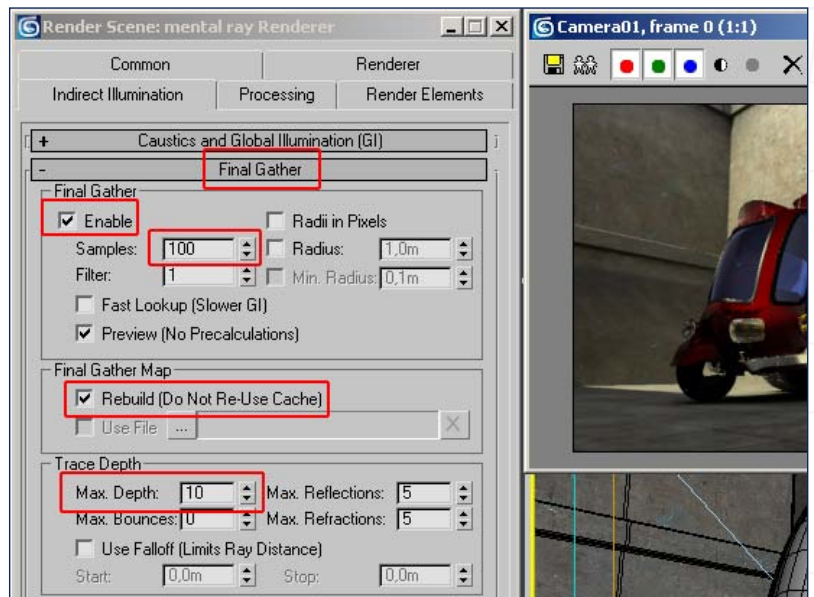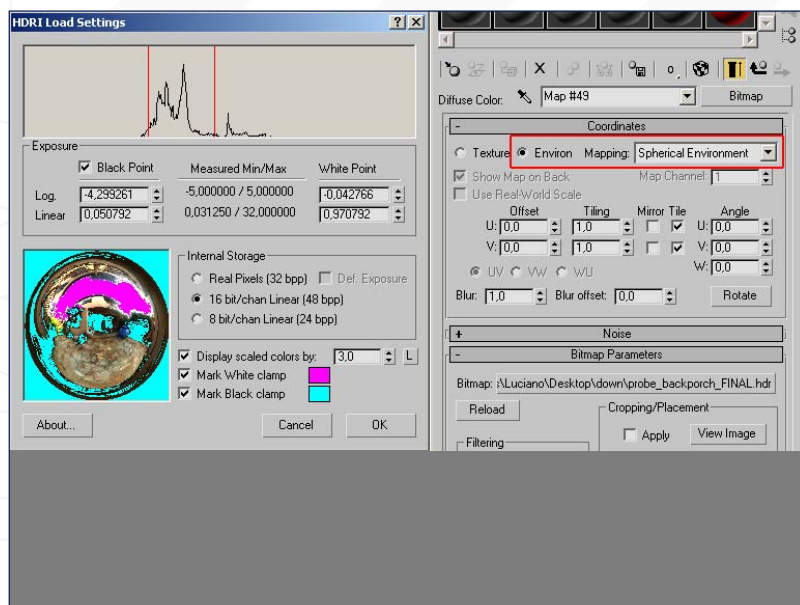
Fig 04

4. Open the Material Editor and import the HDRI map file included with this tutorial (probe_backporch_FINAL.hdr). Once you import it, a new window will appear, which contains the HDRI settings. Simply copy the settings that can be seen in Fig.04. In the Coordinates section of the map, set it to "Environ" and the Mapping should be "Spherical Environment" (Fig.04).

Fig 05

5. Increase the RGB Level of the HDRI map in the Output rollout (Fig.05).
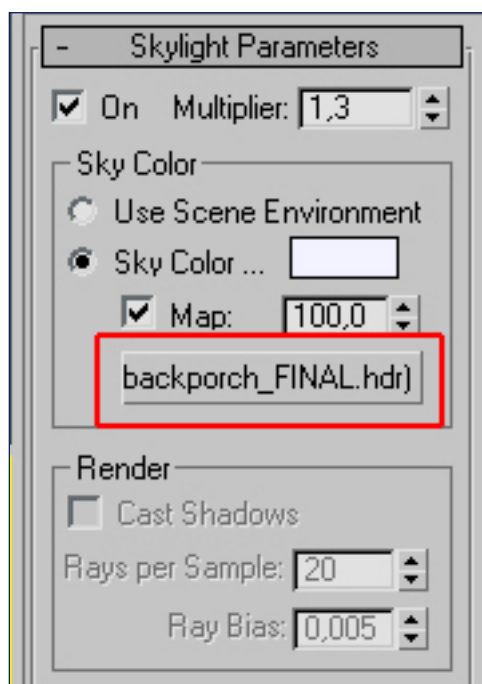
Fig 06

6. Plug the HDRI map into the Skylight's "Sky Color" map slot (Fig.06).

7. Also plug the HDRI map into the "Environment Map" slot of the Environment and Effects settings (Rendering/Environment menu) (Fig.07). This will allow the HDRI map to show in the reflections of reflective objects in the scene.
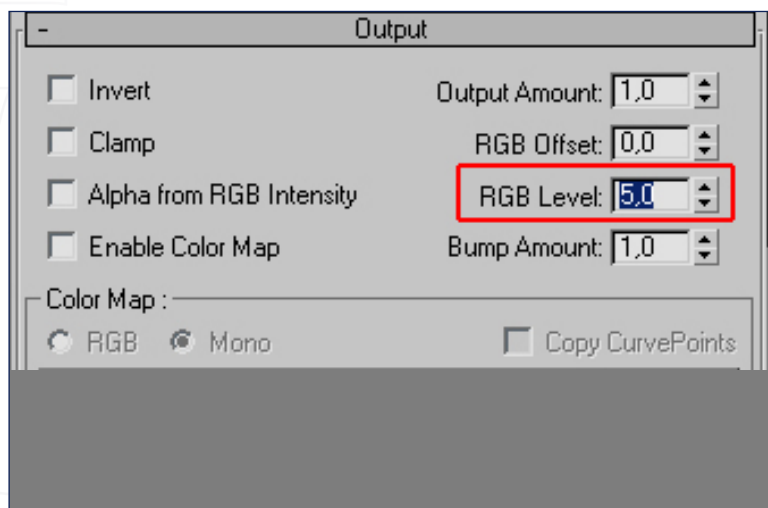
Fig 07
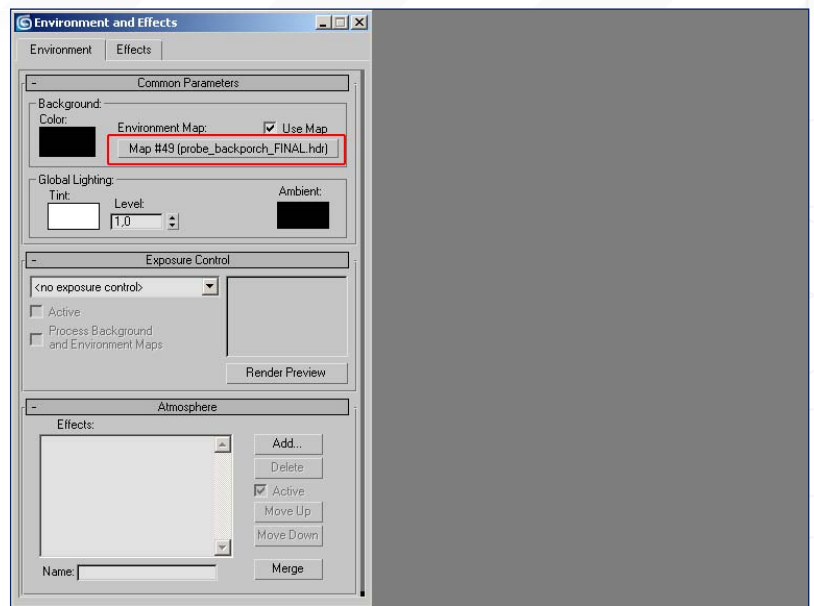
8. Now render the scene again (Fig.08). The HDRI is lighting the scene, together with Final Gathering, and it also appears in the reflections. But the image is still too dark, and there are also over-exposed parts in the render.

Fig 08

9. Go back to the Environment and Effects panel, and in the "Exposure Control" tab select "Logarithmic Exposure Control" from the drop-down menu (Fig.09). Leave everything else as it is for the moment.

Fig 09
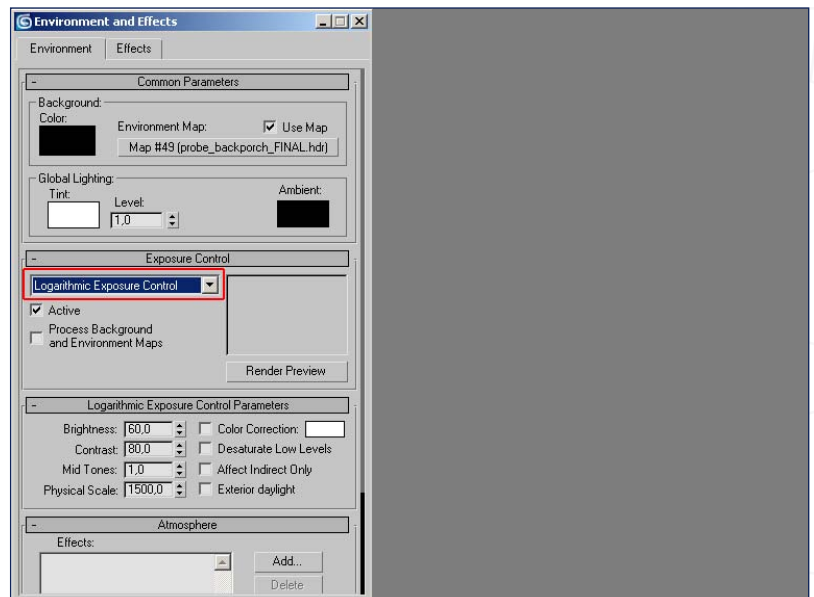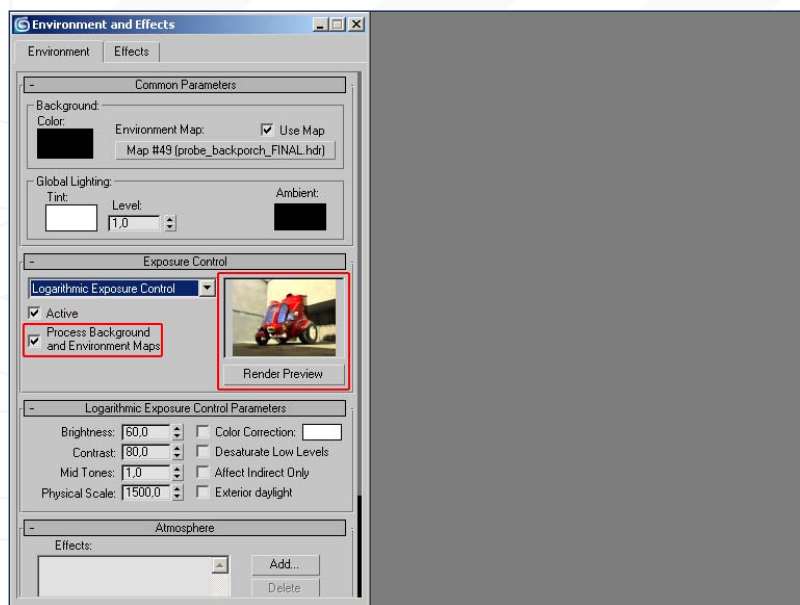
Fig 10

10. Enable the "Process Background and Environment Maps" option, and click on the "Render Preview" button (Fig.10). After a few seconds, the rendered image should appear in the opposite preview box. Now we can alter the Exposure Control parameters, giving us real-time feedback on the preview image.
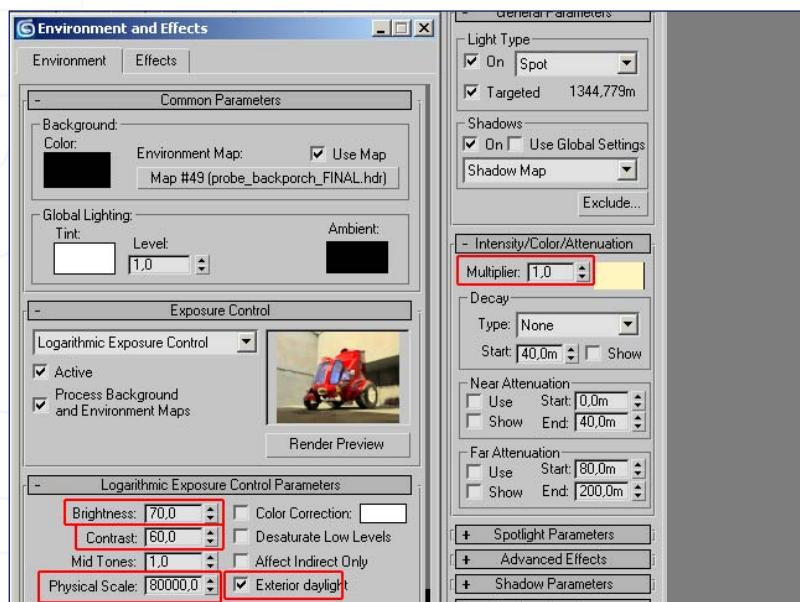
Fig 11

11. Set the "Brightness" to 70, and the "Contrast" to 60. Enable the "Exterior Daylight" option and set the "Physical Scale" value to 80000 (Fig.11). Also lower the "Mutliplier" of the Spotlight a little to avoid the problem with over-exposure.

Fig 12

12. Render the scene again. Now, the rendering is much brighter (Fig.12).

13. This step is optional. I have simply modified the Tyre shader and the Glass shader, as they looked too "toonish" to me. I also modified the Falloff curve in the Diffuse slot of the Tyre shader, and set the Glass color to black. You can also do these things, or perhaps you can leave them as they are - it's up to you, and it depends upon the look that you want to give your render.

Fig 13
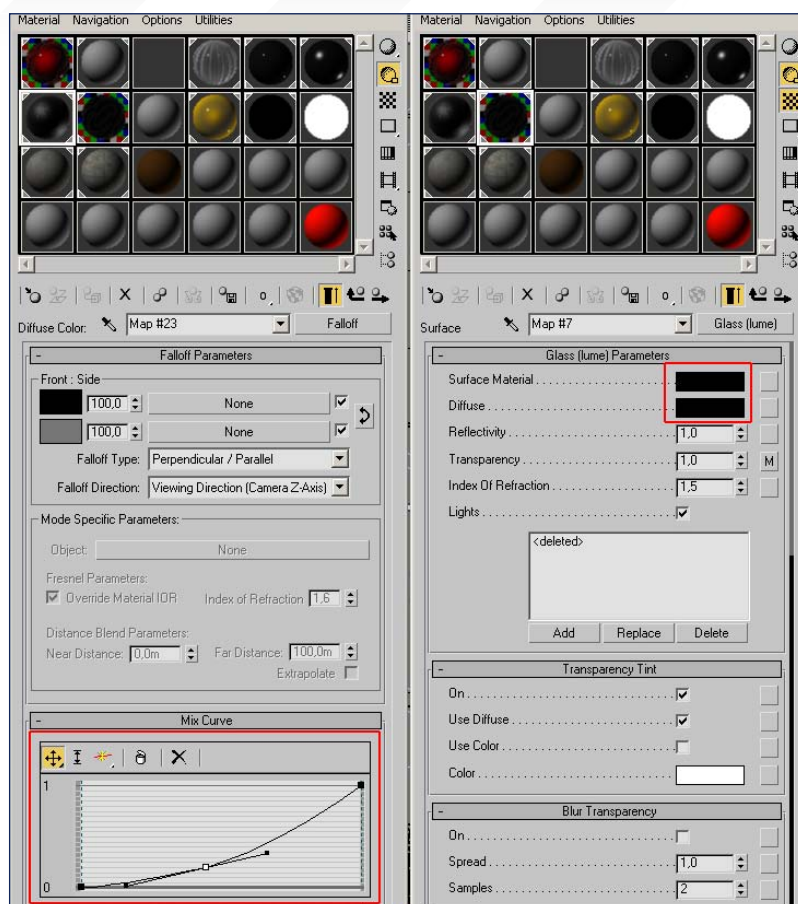

14. One more thing to take care of is the shadows. Delete the Spotlight and create a new mental ray Area Spot light. Position it in the same way as we did with the old Spotlight, and make sure that it casts shadows (Fig.14). Pump up the Multiplier value to 8 and enable the "Use" and "Show" options for Far Attenuation. Set "Start" to 80, and "End" at about 1700/1800. Go down to the Area Light Parameters rollout and increase the "Height" and "Width" values. If you want more precise, and nice, shadows at the cost of a higher render time, you can of course increase the samples.

Fig 14
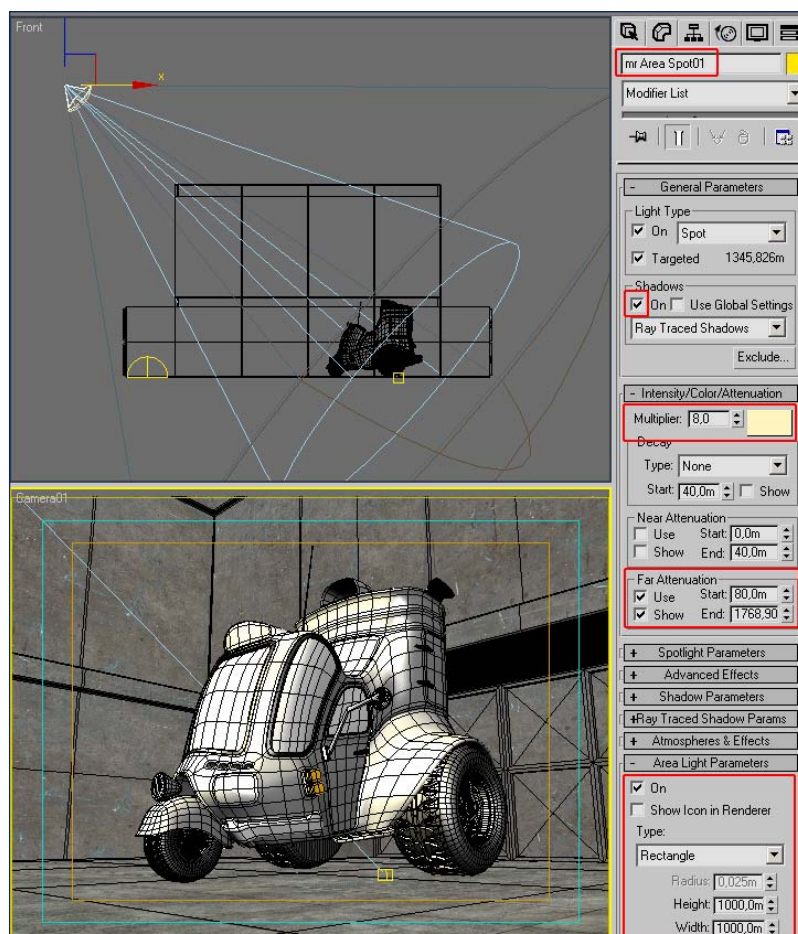
Here are some renders from different points of view. Next month, we'll take care of different rendering aspects, and we'll also look at how to use some advanced effects, like depth of field, anti-aliasing, and so on.

Tuc-Tuc

Originally Designed & Modelled by:

Richard Tilbury

Tutorial by:

Luciano Iurino

For more from this artist visit: www.pmstudios.it

Or contact them: iuri@pmstudios.it

The HDR Image used for this tutorial has been kindly been supplied by www.unparent.com.

The HDR Image can be downloaded free here:

HDRI

Tug-Tug

CINEMA 4D

Is our new precise, step-by-step tutorial which will begin with a vehicle model and cover the principals of applying shaders, placing it in a simple scene and following with a two-part section on both lighting and rendering. The tutorial will begin by creating and applying materials for the various parts of the car, such as glass, chrome and tyres, as well as texturing some simple geometry that will make up a scene. It will then move onto lighting where the focus will be on setting up a lighting rig and the various parameters connected to this. Finally the series will culminate with a section on rendering, where the aim will be to finish with a polished image. The schedule is as follows:

Enjoy ...

Lighting Setup & Rig (with hdri) Part 2

Welcome to the second part of the "Lighting Setup and Rig" tutorial. In this session we will create an HDR probe which together, with the Sun Light, will be the lighting rig setup for our scene. With the support of HDRI you are able to create realist lighting for your scenes, because the High Dynamic Range images can hold much more information than normal RGB images. For this, you are able to get extreme contrast within the image and use that contrast to provide your scene with true, reflective specularity and accurate illumination.
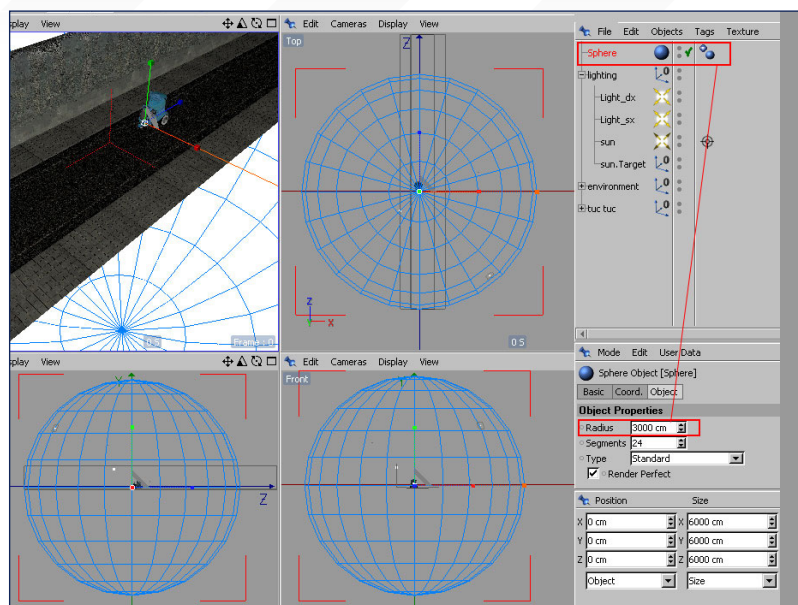
1. Let's start by creating a sphere in the scene. Change the amount of Radius in its properties so that it encompasses your entire scene, as seen in Fig.01. It's not necessary that the sphere is an editable object, because we won't have to modify its geometry, so we will simply apply to the sphere to the HDR image as a texture. Rename the sphere, "Sky".
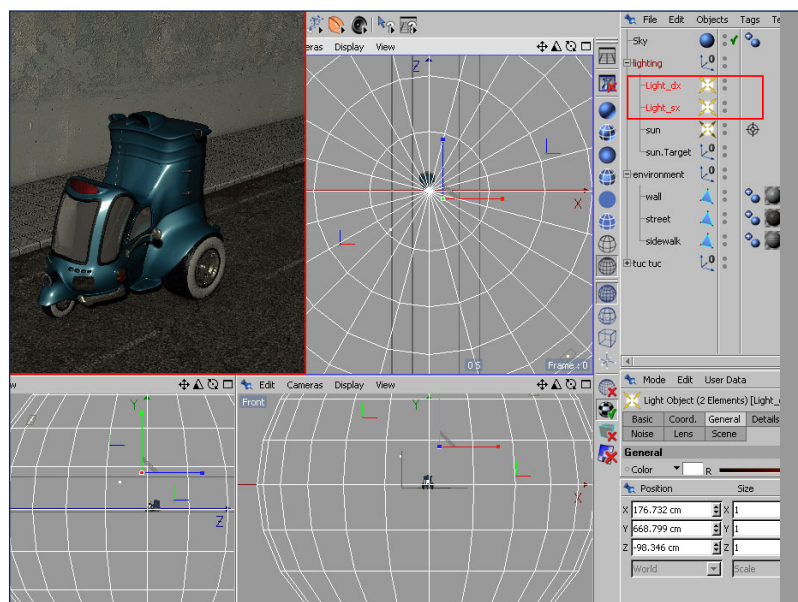
2. In the object browser, select the two lights named "Light_dx" and "Light_sx", and delete them. Since we are using the HDR probe we don't need to use these lights in order to illuminate our scene (Fig.02). On the left of the image you can see a render with one light positioned inside the scene. Remember that, if you want to decrease the time of rendering, you may disable the "Antialiasing" option in the Render settings.
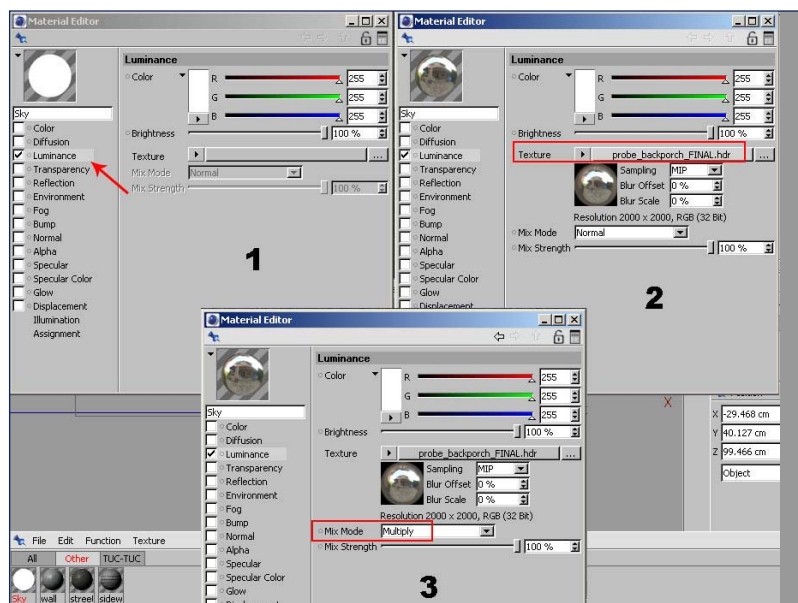
3. Go now into the Material browser and create a new material. Turn off all channels, less Luminance, as seen in stage 1 of Fig.03. Here, load, as "Texture", the "probe_backporch_FINAL.hdr" file, as shown in stage 2 of Fig.03. Then change the "Mix Mode" to "Multiply", as seen in stage 3 of Fig.03.

Fig 01

Fig 02

Fig 03

Fig 04

4. Now apply the Sky material to the Sky object and give it a Spherical Projection, as shown in Fig.04.
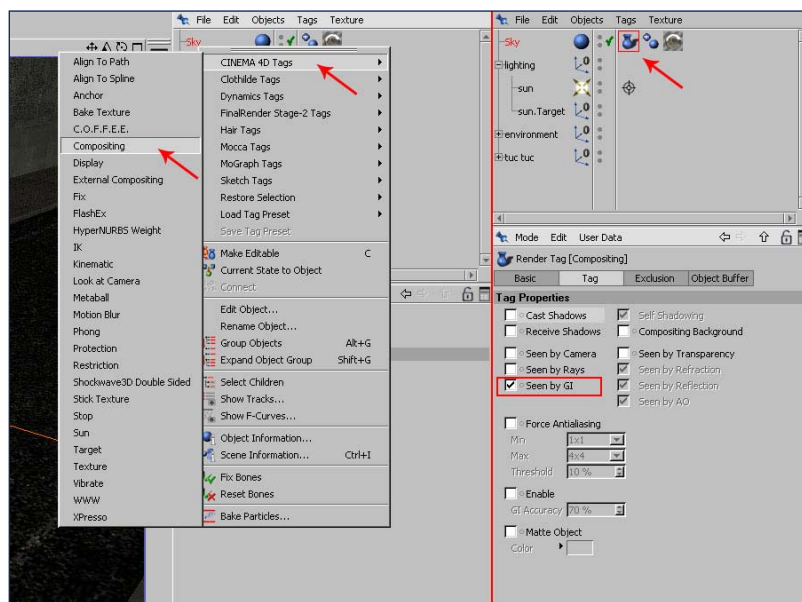
Fig 05

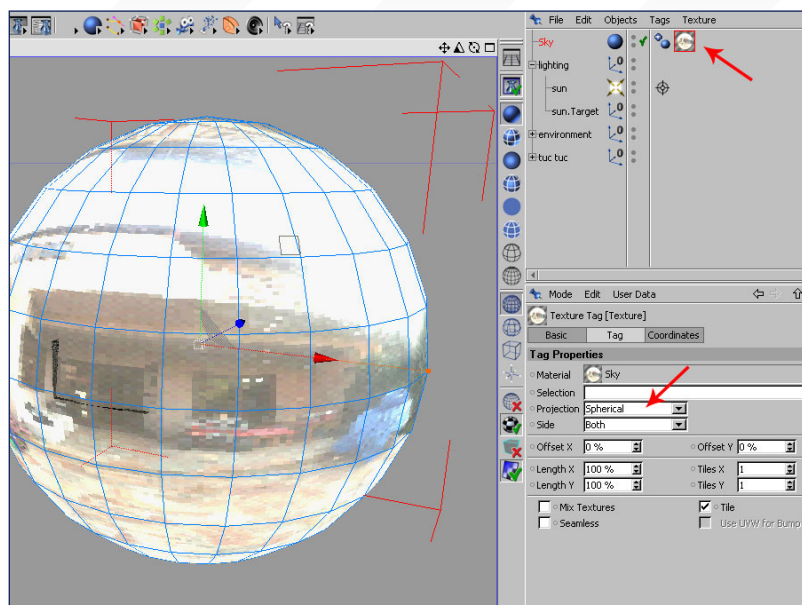5. Select the "Sky" object, and, from the right hand menu, go into "CINEMA 4D Tags" and choose the "Compositing" option, as seen on the left of Fig.05. In the properties of this tag, make sure that everything, except for "Seen by GI", is unchecked. This then concludes the basic setup for your HDR probe.
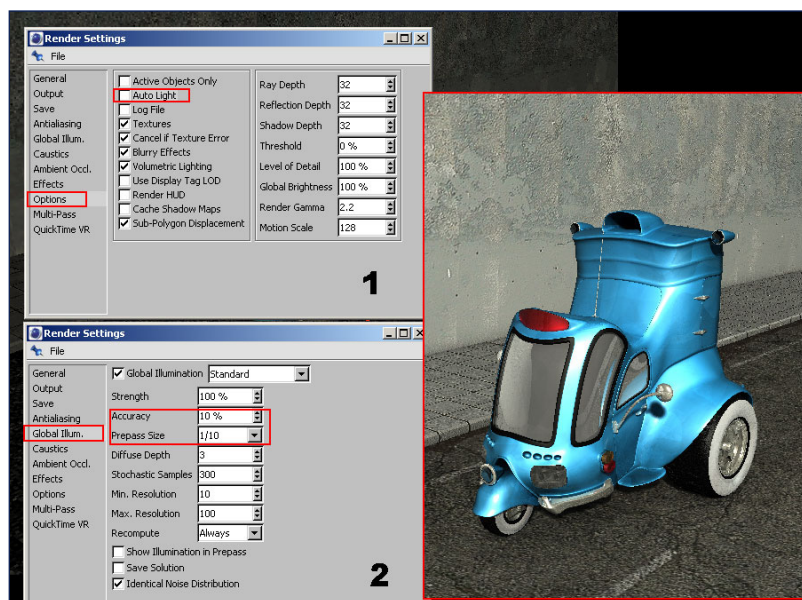
Fig 06

6. It's now important to find good Radiosity settings to produce the best lighting for the scene. It is also important to find a good GI solution, in order to decrease the render time, and so for this we will disable the AA (Antialiasing) and we will modify the parameters of Standard Radiosity. First of all, go into "Render Settings", and then "Options", and there you must uncheck the "Auto Light" tab, otherwise we will have another source light that we don't need (Fig.06 (stage 1)). The second step is to enable the "Global Illumination", as seen in stage 2 of Fig.06. I changed the "Accuracy" to 10%, and the "Prepass Size" to 1/10, for this test render. We will keep these parameters to make some test renders, but for

our final render we will increase them. On the right of figure you will notice this first render with HDR image.

7. If you think that the light is too bright, you may change the value of the "Brightness" in the "Luminance" channel. Let's try it out! In Fig.07 you will notice that I have changed the "Brightness" to 50% to show you the difference, however, I will set the Brightness to 80%.

Fig 07
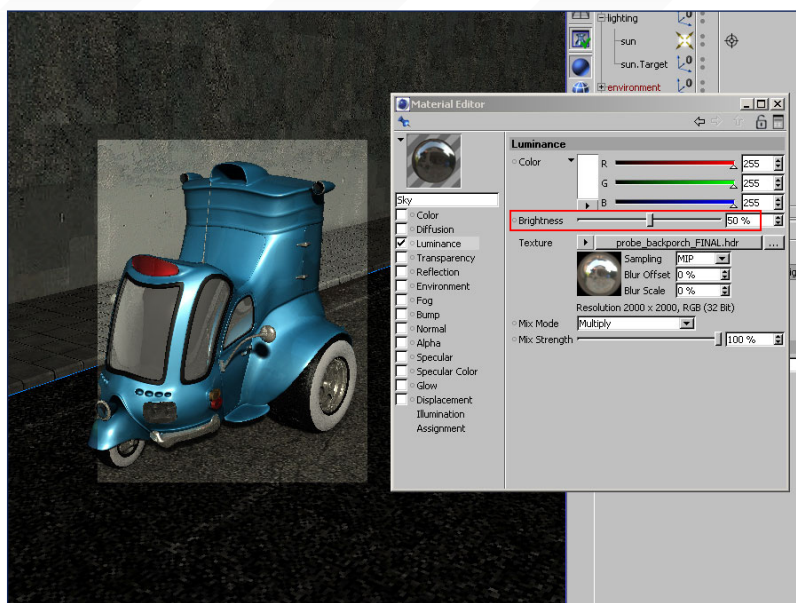
8. Another parameter that you can modify is the "Illumination" of the material. Now, you can see from Fig.08 that we have the two first parameters that concern the GI; the second two concern the Caustics. Continuing on, we find the "Model" that allows you to choose the type of material: "Phong", "Blinn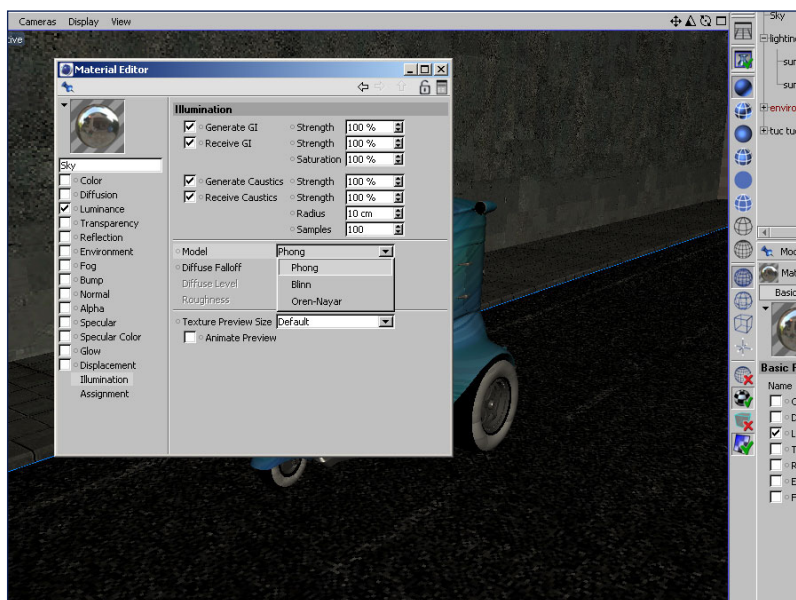" or "Oren-Nayar". "Diffuse Falloff", "Diffuse Level", and "Roughness" are related to the type of material. The "Phong" type is used for plastic or rubber materials; the "Blinn" type for metallic materials, and "Oren-Nayar" for concrete materials.

Fig 08

9. Let's now adjust the illumination of all materials. In Fig.09, on the top-left, you can see the parameters for the Sky material. You have to generate the GI only, so you can uncheck everything except "Generate GI". The top-right of Fig.09 shows the settings for the Wall, Sidewalk and Street materials (concrete materials). Now you can see that the Model is set to "Oren-Nayar". "Main_body", "Chrome", "Glass", "Light_glass-1", Light_glass-2", "Light_glass-3" materials are all "Blinn" (bottom-left of Fig.09). "Black_plastic", "Tyre_black" and "Tyre_white" materials are all Phong (bottom-right of Fig.09).

Fig 09
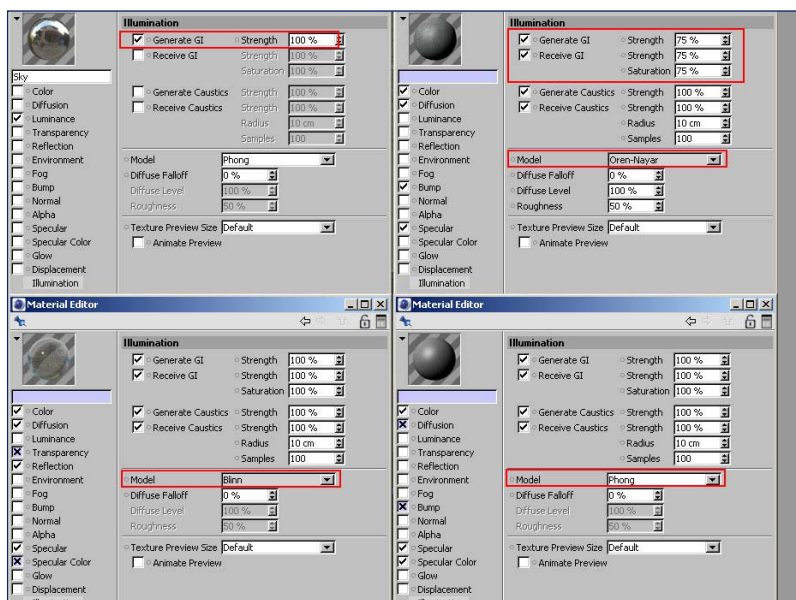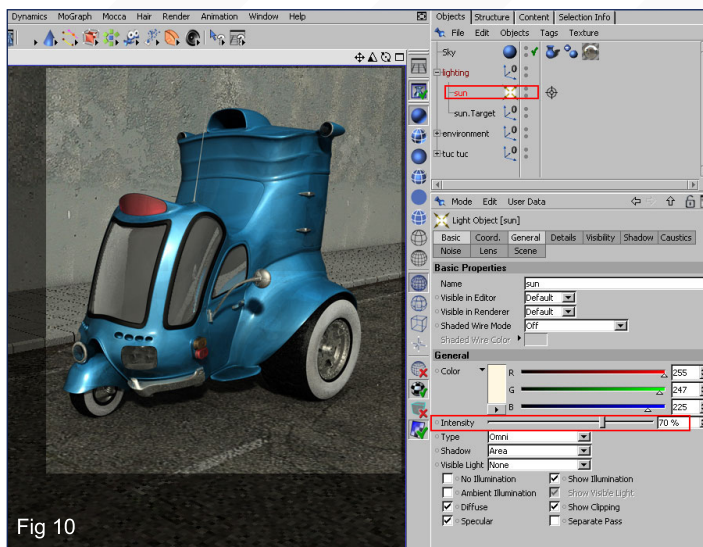
Fig 10

10. The last thing to do is to decrease the intensity of the Sun light a little, so go into its properties and change the "Brightness" to 70% (Fig.10). We therefore have to avoid to have parts of the car burnt by the light. Now, make a render. For this render, I have enabled the AA (Antialiasing) and have set it to "Geometry". This now concludes the second chapter of "Lighting Setup and Rig" part of the Tuc-Tuc tutorial.

Tuc-Tuc

Originally Designed & Modelled by:

Richard Tilbury

Tutorial by:

Giuseppe Guglielmucci & Niki Bartucci

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www.pikoandniki.com

Or contact them:

niki@pikoandniki.com

The HDR Image used for this tutorial has been kindly supplied by www.unparent.com. The HDR Image can be downloaded free here: HDRI

Tug-Tug

lightwave

Is our new precise, step-by-step tutorial which will begin with a vehicle model and cover the principals of applying shaders, placing it in a simple scene and following with a two-part section on both lighting and rendering. The tutorial will begin by creating and applying materials for the various parts of the car, such as glass, chrome and tyres, as well as texturing some simple geometry that will make up a scene. It will then move onto lighting where the focus will be on setting up a lighting rig and the various parameters connected to this. Finally the series will culminate with a section on rendering, where the aim will be to finish with a polished image. The schedule is as follows:

Enjoy ...

Lighting Setup & Rig (with HDRI) Part 2

With the HDRI setup we created last time, we were able to create a very nice illumination, at the expense of extremely long render times. This time, we are going to create a lighting setup that renders a lot faster, whilst maintaining a good look. As a side note, I can't write a tutorial about LightWave - good lighting and fast rendering - without mentioning the renderer, "Fprime", from Worley Labs, which is a great tool to render quality images in a short amount of time. So, check it out if you have the opportunity.

For this tutorial, we are however using the default renderer. This is not just because everyone can use it for the tutorial, but because the default LightWave renderer still has lots of advantages, and is currently still much more versatile.

1. As usual, I start by adding some more 3D objects. I chose to improve the scene by making it more complex, resulting in a more convincing final image. I did not spend too much time on object creation; I simply exported two plants from "Vue 6 XStream", as LightWave objects: a cactus and a palm tree. You could of course always create these plants on your own. Usually, buying 3D model collections with various plants, or exporting them from specialised programs, are a good option, as you will save a lot of time. Your plants are loaded in Layout and placed around in the scene. Rotate and scale every clone of the plants, so that they all look different. Use only a few copies, as these plants can have rather high poly counts and can therefore slow down your render (Fig.01). As you can see, I also created a few stones that were manually placed across the ground object, in Modeler.

2. For this part of the tutorial, we are not using the HDRI for lighting the scene, and we are not going to use Radiosity. So, remove the outer
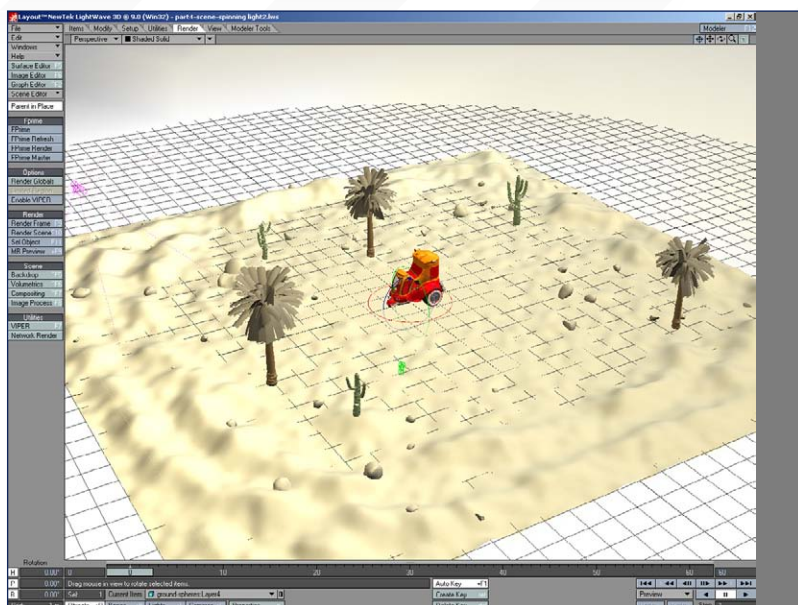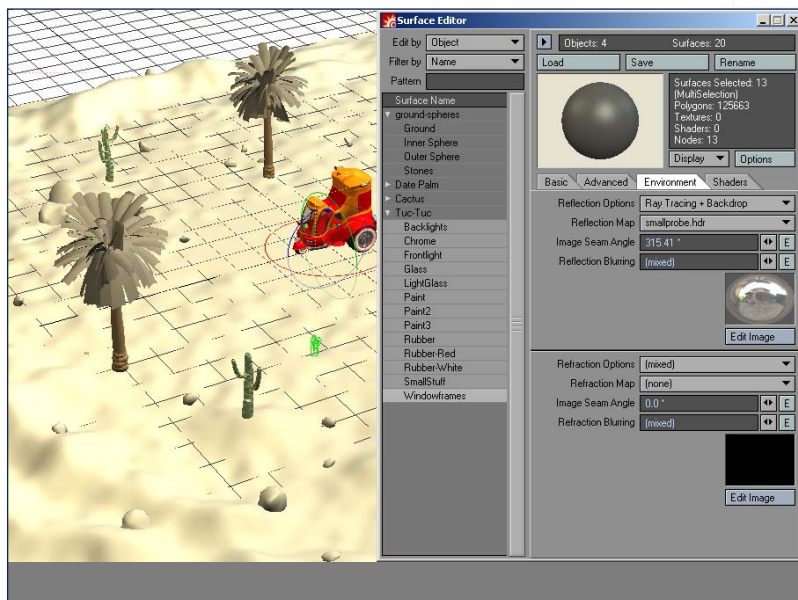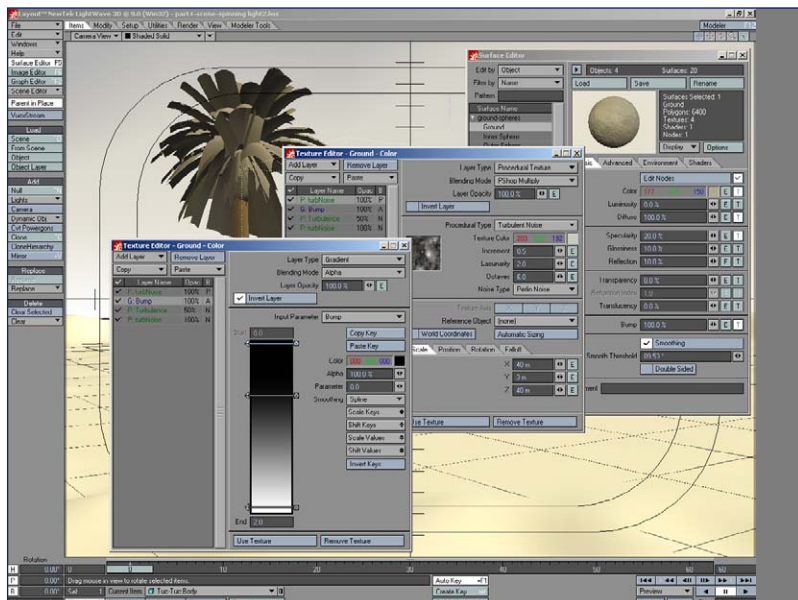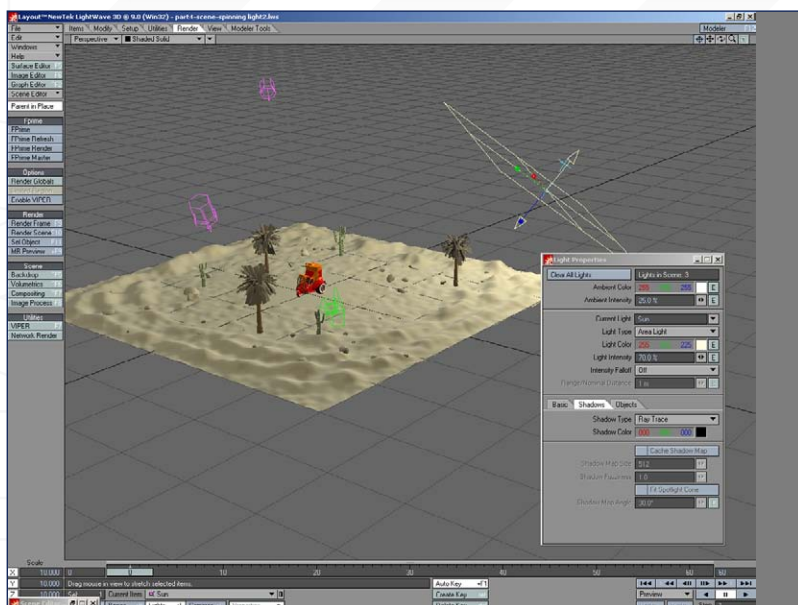

Fig 01

Fig 02

Fig 03

Fig 04

Fig 05

Fig 06

sphere and turn off the "Radiosity" in "Render Globals". Instead, we add the HDR image as a reflection map for all reflective materials. In "Surface Editor", select all reflecting materials and change "Reflection Options" to "Ray Tracing + Spherical Map". As "Reflection Image", we add the HDR image, for example "smallprobe.hdr". I used the "Image Seam Angle", which we used for the rotation of the image map on the "Outer Sphere", 315.41° (Fig.02).

3. The "Ground" material has only used very basic settings until now. To make it look a little more interesting, I added a few procedural layers on the Color channel. To make the bump effect a bit more visible, I added a Gradient with the Input Parameter set to "Bump". This serves as the alpha map for the "Turbulence" procedural map underneath. The effect is that some of the areas with bump effect appear darker. I added the same gradients for the Specularity, so that the higher bump parts are also brighter. The surface looks more like sand in this way (Fig.03).
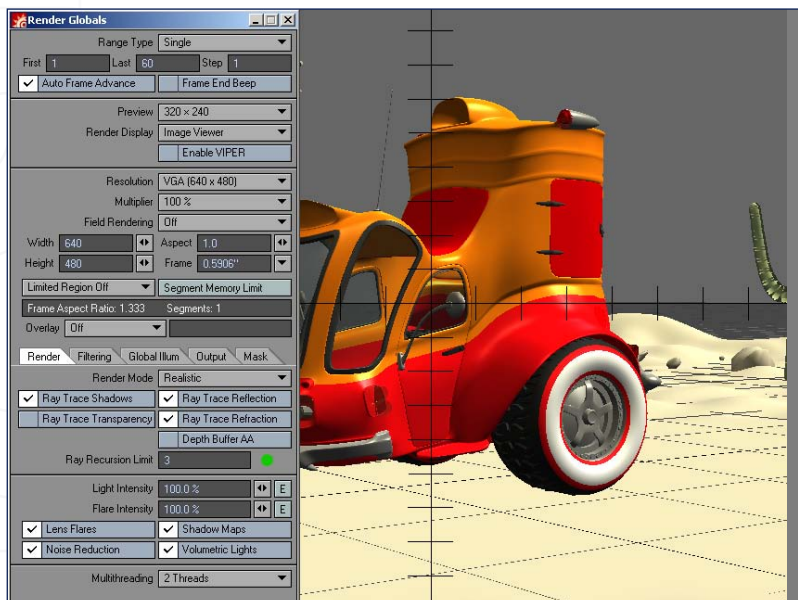
4. We are going to use 3 lights: one Area Light for the sun (also serving to cast the shadows); One bluish Distant Light (without casting shadows) to illuminate the back side of the scene; and a yellowish Distant Light to serve as the fill light. Fill and backlight have Light Intensity set at approximately 30%. The Area Light has an Intensity of 70%, and is scaled by a factor of 10, resulting in very smooth shadows (Fig.04).

5. When you make a test render, make sure to set the "Ray Recursion Limit" in the Global Settings to a value of 3, or 5. This value determines the time each light ray bounces back from a surface. The setting is very dependent upon your scene, so you have to check what setting looks good and renders faster than the default value of 16. For our scene, the value setting of 5 provides a good mix of quality and render times (Fig.05).

6. I used the Antialiasing setting of "PLD 5-Pass"

for the render (Fig.06). Depending upon your computer hardware, the render times may be quite long. It took 40 minutes on my system, with only 5 antialiasing passes. The reason for these long render times is obviously the Area Light which we used as the sunlight, with the soft shadows.

7. Lower rendertimes would be possible with fewer soft shadows, so you might simply reduce the scale of the Area Light. But there is another possibility: the classic Spinning light trick. This is a way around achieving soft shadows of all light types, not just the Area Light and the Linear Light. The effect of this method is also lower render times. Add two Nulls; one is called "Handle", the other one is called "Spinner". The "Handle" should be the parent of the "Spinner"; the "Sun" light should be the child of the "Spinner". Reset the position and rotation of the Light, so that it is in exactly the same place of the "Spinner" Null. Now you can use the "Handle" Null to move and rotate your light (Fig.07).

8. Change the Light Type of the Sun to "Distant Light", and change the value to "100%". Rotate the light around the "H" axis, about 10°, adding a little offset. Now here is the trick: set the time slider to 1 frame. The rotate the "Spinner" around the "B" axis exactly 720° (Fig.08).

9. Go to "Camera Settings" and enable "Motion Blur". Keep the default setting of "50%" - this covers half of the 360° required. This is why we used a rotation of 720° - to cover the full circle. Now, again, make a test render (Fig.09). As you can see, the quality could be a little better. Since it took only 10 minutes to render, you can easily improve the quality by using a higher antialiasing level.

Fig 07
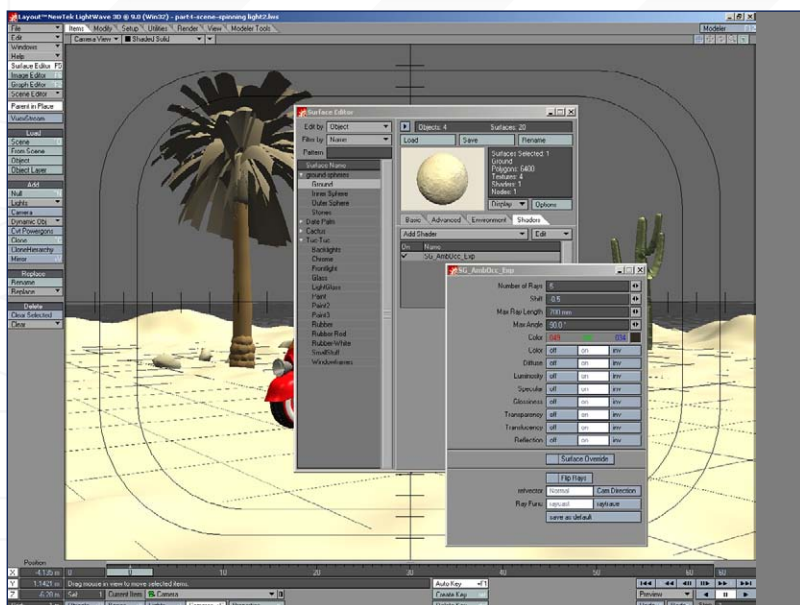

Fig 08

Fig 09

Fig 10

Fig 11

Fig 12

10. As we have a bit of reserve in the render time, we can now do a little more to the look of the image - and this is Ambient Occlusion. There are many methods to create Ambient Occlusion in LightWave, but I am using the free plugin called, "SG_AmbOcc_Exp", which you can find and download it via the great www. flay.com database. Once you have installed the plugin, add it as a shader to the "Ground" material. We are only adding it on the "Ground" material for demonstration purposes only. Use a "Number of Rays" value of 5 and a maximum "Ray Length" of 700 mm. Turn on all channels and disable "Surface Override", because we want the Ambient Occlusion to be computed together with the main pass (Fig.10). For animation, or best post processing possibilities, you might want to create a separate output pass for the Ambient Occlusion instead. Rendering Passes will also be discussed in Parts 5 and 6 of the Tuc-Tuc tutorial series.

11. It is now time for another render. My render took 32 minutes - don't forget this is with Ambient Occlusion shader and "PLD 12-Pass" Antialiasing. You might also want to try out the "Dithered Motion Blur" for even softer shadows (Fig.11). With the spinning light trick, you can also use the "Depth of Field" without additional render times. Depending upon what you want to do with your scene, this can save you a lot of time.

12. We have now looked at two principal methods of lighting a scene; one using Radiosity, and the other with traditional lighting. Techniques like the spinning light trick, or ambient occlusion, can be used in both approaches, so you should experiment with different setups. This image, for example, uses an Area Light, and a more subtle Ambient Occlusion - which was rendered as separate passes for all surfaces (with "Surface Override") and was multiplied in Photoshop (Fig.12).

13. The scene and lighting setup that you choose will again be very dependent upon the scene you have. For animation, traditional lighting might be

preferable because of the faster render times. For true photorealism, you most certainly need to use Radiosity.

Tuc-Tuc

Originally Designed & Modelled by:

Richard Tilbury

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The HDR Image used for this tutorial has been kindly supplied by www.unparent.com. The HDR Image can be downloaded free here: HDRI

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Tuc-Tuc

Maya

Is our new precise, step-by-step tutorial which will begin with a vehicle model and cover the principals of applying shaders, placing it in a simple scene and following with a two-part section on both lighting and rendering. The tutorial will begin by creating and applying materials for the various parts of the car, such as glass, chrome and tyres, as well as texturing some simple geometry that will make up a scene. It will then move onto lighting where the focus will be on setting up a lighting rig and the various parameters connected to this. Finally the series will culminate with a section on rendering, where the aim will be to finish with a polished image. The schedule is as follows:

Enjoy ...

Lighting Setup & Rig (with hdri) Part 2

In this part we're going to discuss tuning the lighting in order to get some really good results, like volumetric light or light fog, for example.

1. The first thing that I want to do is to add a volumetric effect to the lights from the top. Simply create a Spot Light. As with any other light, it can't be directly visible, so we need to fake the effect of visibility. In order to do this, I need to add a Light Fog effect to my newly created Spot Light. Simply click on the "checker board", to the right of Light Fog tab. Maya will assign a coneShape node to your light. In Fig.01 you can see the setting for the Spot Light and Light Fog. You will notice that I have used a very big value for the light and a cubic Decay Rate. I've done this because I wanted to lower the intensity of my light, with the distance, by a the power of three, or cubic. You can try different combinations of quadric or linear Decay Rates, combined with the intensity of the light, in order to simulate different realistic lighting.

2. In Fig.02 you will see a short render of this Spot Light with it's Light Fog - it looks pretty good. I have a nice halo around the light, and the Light Fog is spreading pretty well. I think this will work well as a light for my car. Of course, you are free to try different combinations and settings for the light, and for the fog. Also notice that, if you want to scale the coneShape, it seems like you have a slight problem with the fog selection. I usually use Hypergraph to select the coneShape (highlighted in red, in Fig.02).

3. Arrange the light on top of your car, in front of your top lamp, and see how it looks. You can scale the light or the fog until you are satisfied with the results (Fig.03).
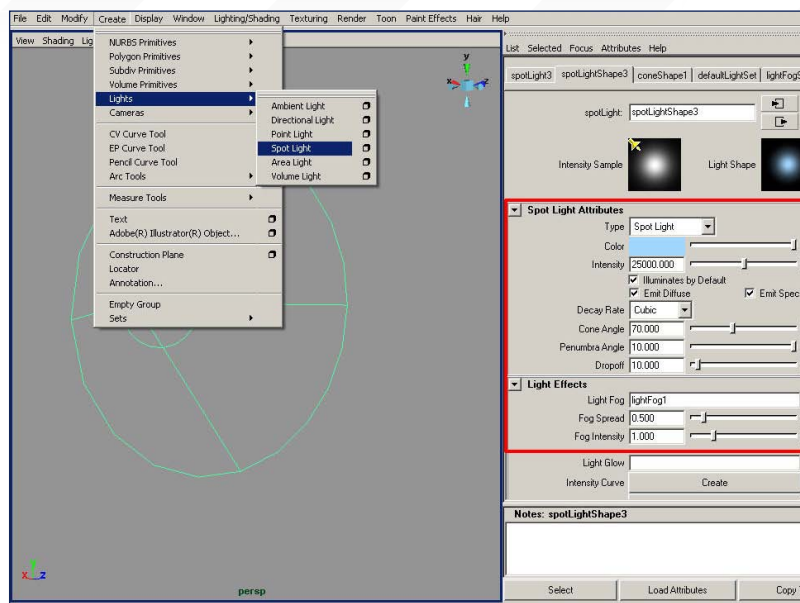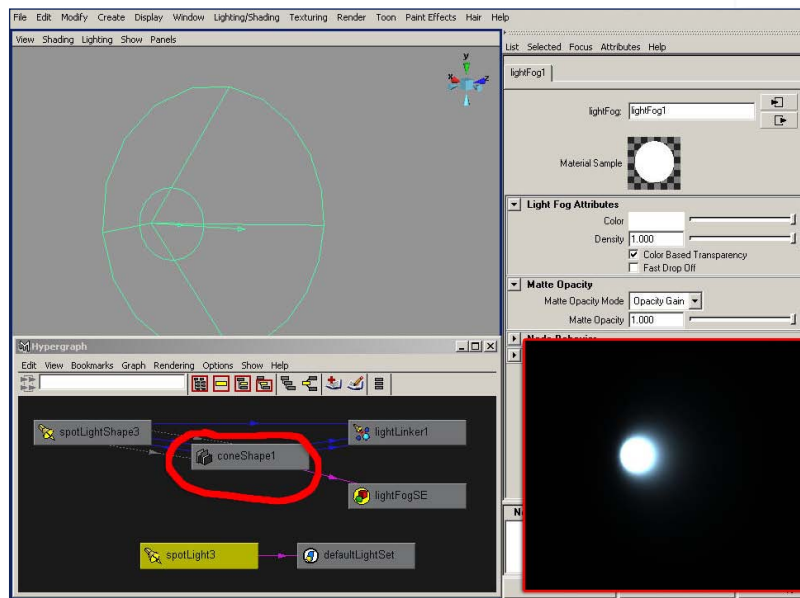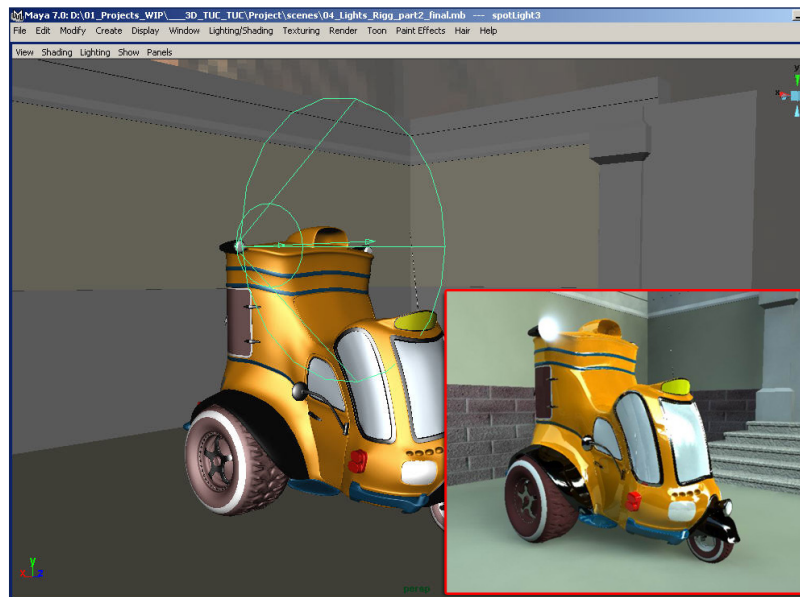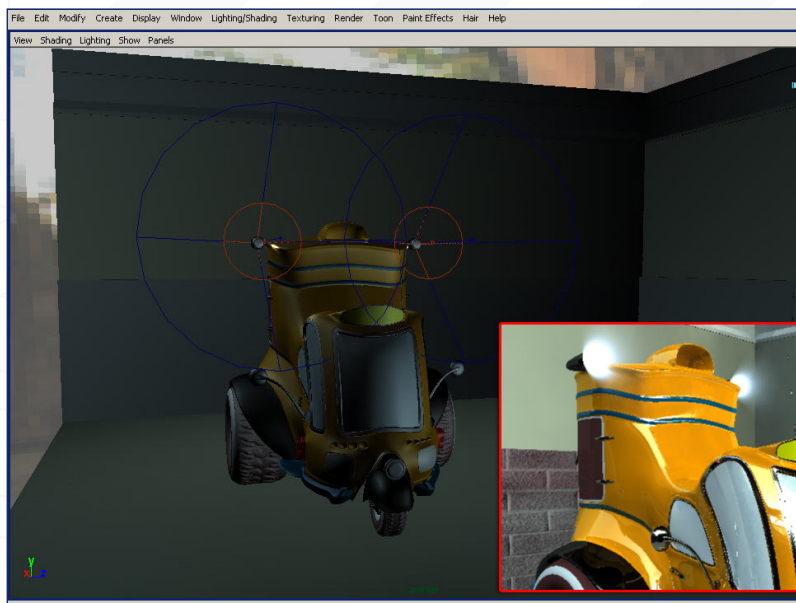
Fig 01

Fig 02

Fig 03

Fig 04

4. If I am happy with my light, then I will want to duplicate it and move it to the other side. Unfortunately, if I'm duplicating the light, I'm going to lose the light fog (even if it seems like you have a light fog on your duplicated light). So, what I need to do is to duplicate the light, move it to the other side, delete the fog, and create another fog node using the same steps as we used for the first light. This is the simplest way. You may also want to try and connect the nodes, but this technique is a little more advanced, and I prefer to use this method right now (Fig.04).
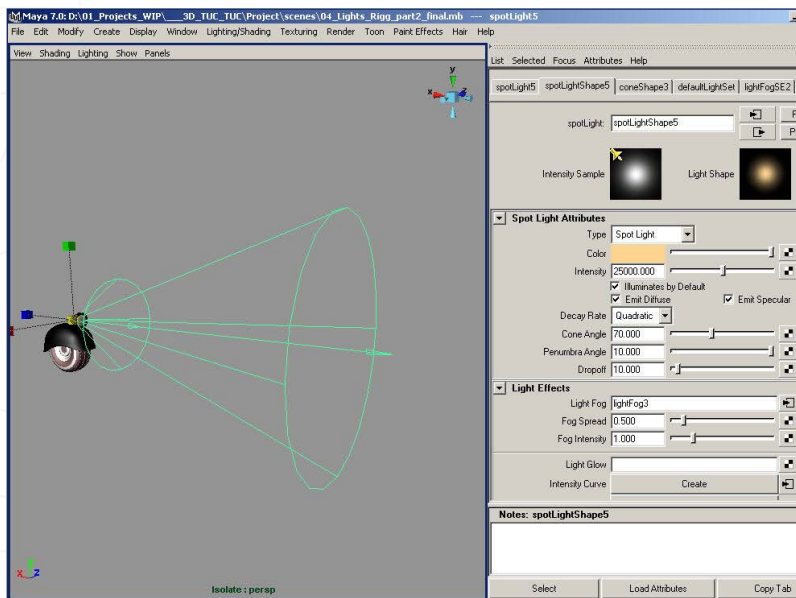
Fig 05

5. Now I'm going to create the front light. Using the exact same steps, I created a new Spot Light, but instead of using Cubic Decay Rate, I wanted to try it using the Quadratic attribute, because I wanted to have more light, and much further light, at the front of my car (Fig.05).
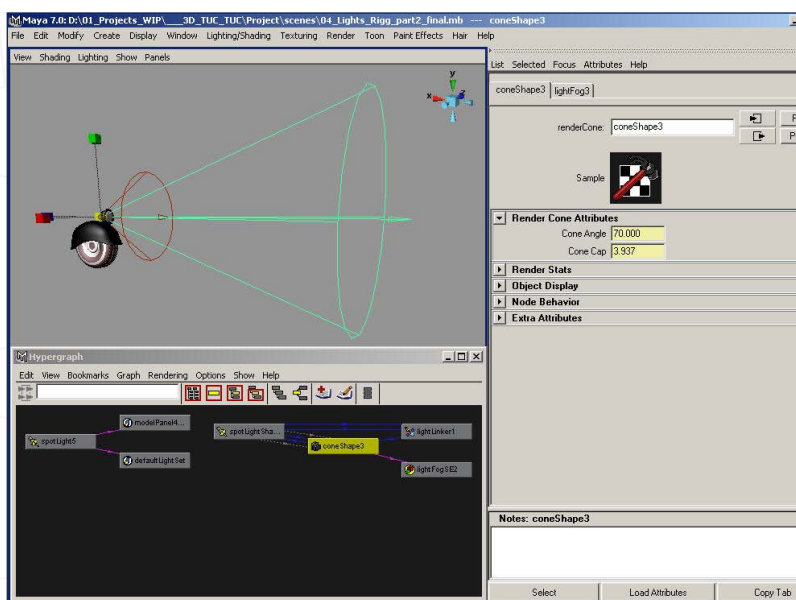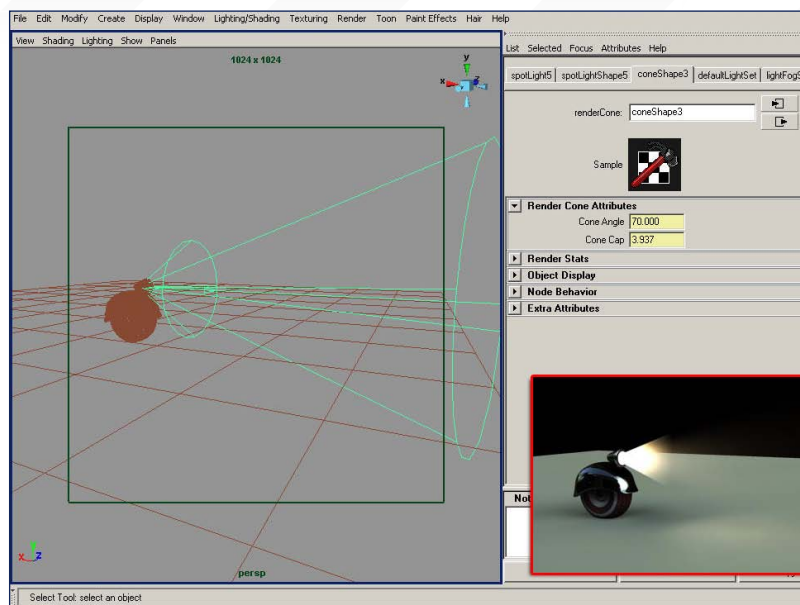

Fig 06

6. The next step is to scale the fog a little. In order to do this, simply select the coneShape in Hypergraph, and scale it outwards, as in Fig.06. Notice that once I've selected the coneShape in Hypergraph, the Spot Light remains unselected.

7. Check all of the attributes for the lighting, and do a quick render to see how it looks (Fig.07).

Fig 07

8. I wanted to check to see if my lights were helping the car to look good during the night. So, I turned off all of the visible attributes for the HDRI image: "Visible as Environment", "Visible in Secondary Reflections", "Visible in Refractions", and "Visible in Final Gather". This way, I'm using only the secondary lights from the scene and, of, course the light from the car. I think my car looks pretty good at night. There are a few small problems at the windows, but that's not an issue right now (Fig.08).

Fig 08
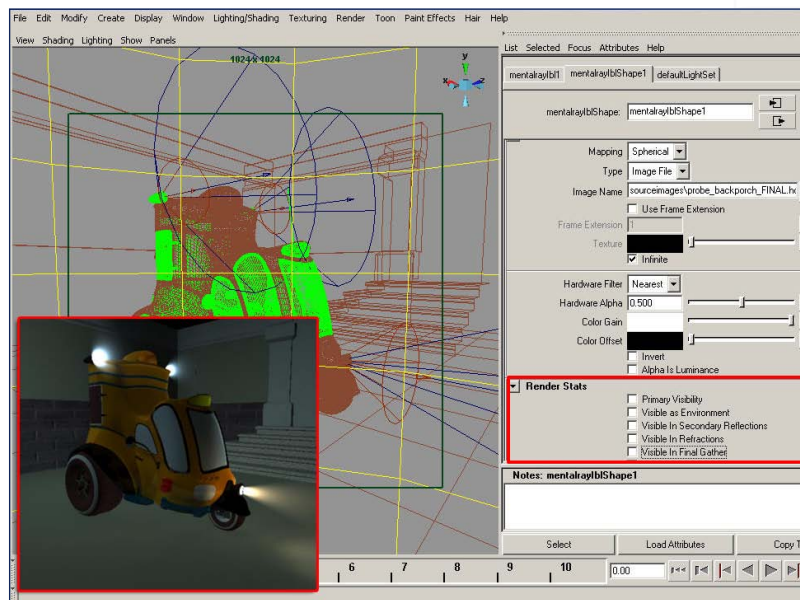
9. After I've finished with volumetric lights, I still need to add a few more lights. I have to simulate somehow that I also have these two front-side primary lights. Actually, these two lights will give me the principal illumination during the night, at close range. In order to do this, I'm going to use another type of light, named "Area Lights". These are very good, but they are also huge consumers of render time, so be careful how, and when, you use them. I'm going to use four of them, so this will increase the render time a lot. I have centred my Area Light right in front of my front lamp, and I tune the settings until I achieve a good result, as in Fig.09.
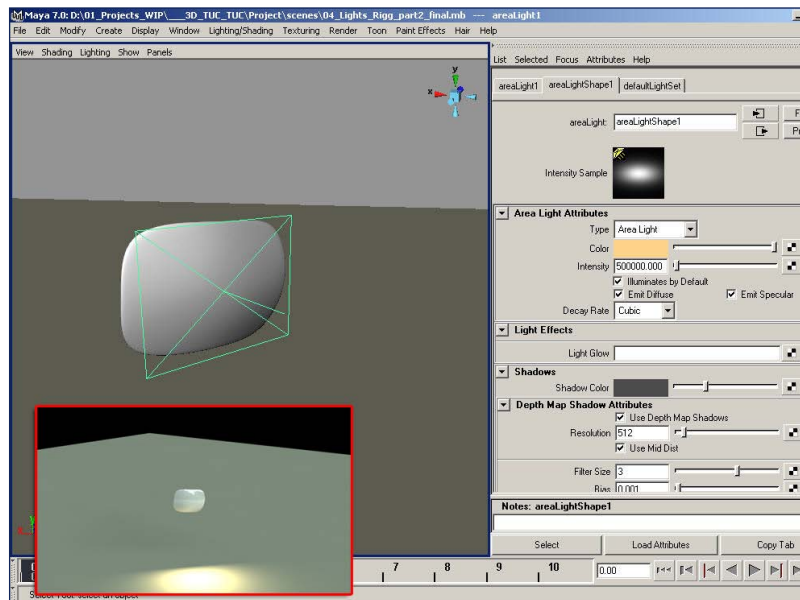

Fig 09

Fig 10 - Day

10. After I've finished with this, I need to see how it looks with all the lights - both in the day and at night (Fig.10).
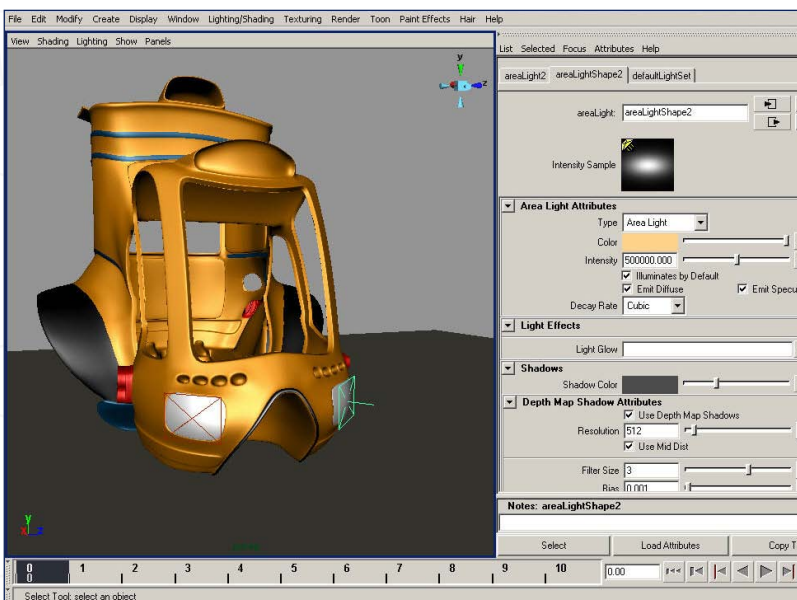

Fig 10 - Night

Fig 11

11. I'm pleased with the results, so I can duplicate and add the light to the other side. Notice that, this time, I can duplicate the light since I have no fancy effects added to it. Simply duplicate the light and move it to the other side of the car (Fig.11).

12. Now it looks pretty good with all the lights in place. Nevertheless, I am still not quite happy, because (as I have highlighted in red in Fig.12) my front lamp doesn't quite look like it's emitting light, but it should be glowing. I have two methods to solve this situation...

Fig 12

13. One method is to start rising the "Glow Intensity" attribute from the "frontLamps" material, as in Fig.13. This is a pretty straight forward method, but I'm not quite happy with it because it doesn't give me a lot of control. For small projects you can definitely use it to fake a light. But I prefer to use another set of lights to "fire up" the front lamps.

Fig 13
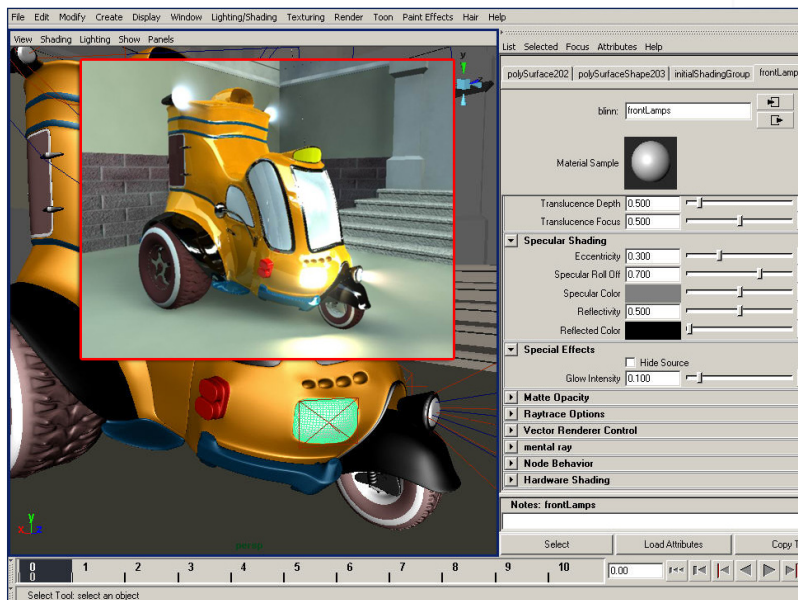
14. So I have made a duplicate after each of the front Area Lights, and I have rotated each one of them by 180 degrees. In Fig.14 you can also see that I have also changed the intensity and Decay Rate down, because the light is now very near to the lamp and I don't need too much intensity. That's it now for our lighting tutorial - I hope you have learned something new and that it may prove to be useful for you in the future.

Fig 14
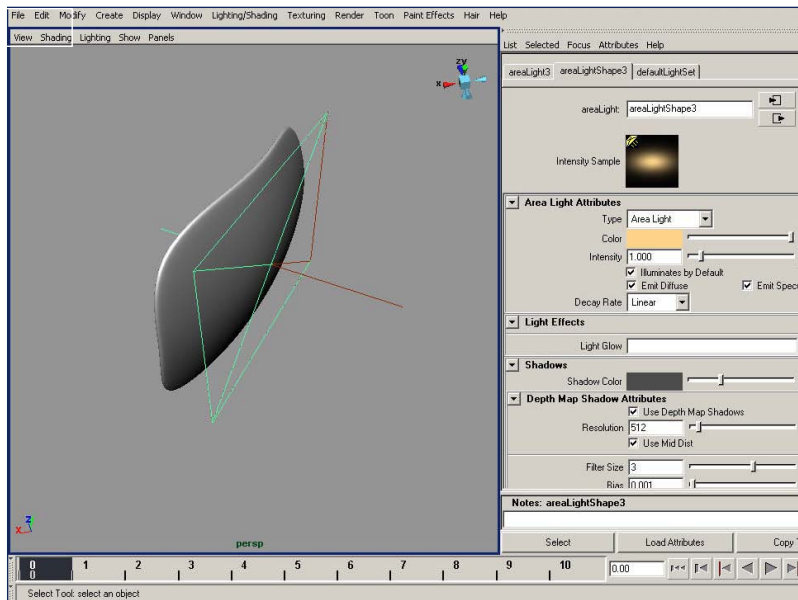
TUC-TUC

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The HDR Image used for this tutorial has been kindly supplied by www.unparent.com. The HDR Image can be downloaded free here: HDRI

Tug-Tug

SOFTIMAGE | XSI

Is our new precise, step-by-step tutorial which will begin with a vehicle model and cover the principals of applying shaders, placing it in a simple scene and following with a two-part section on both lighting and rendering. The tutorial will begin by creating and applying materials for the various parts of the car, such as glass, chrome and tyres, as well as texturing some simple geometry that will make up a scene. It will then move onto lighting where the focus will be on setting up a lighting rig and the various parameters connected to this. Finally the series will culminate with a section on rendering, where the aim will be to finish with a polished image. The schedule is as follows:

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LIGHTING SETUP & RIG (WITH HDRI) PART 2

Last time we discussed how to light a scene using GI and photons emitted from lights. This time we will consider a different approach to lighting, using Image Based Lighting. But before we can start, we should have a look at Final Gathering, which is used by IBL (Image Based Lighting) to create realistic lighting for a scene. As it is said in the XSI Wikipedia, at http://softimage.wiki.avid.com/xsidocs/final_gathering.htm, "Final gathering is a way of calculating indirect illumination without using photon energy. Instead of using rays cast from a light to calculate illumination, final gathering uses rays cast from each illuminated point on an object's surface. [...]". And it also says that, "The overall effect is that every object in the scene becomes a "light source", at least to some extent, and influences the color and illumination of the objects and environment surrounding it. You can combine direct illumination and/or global illumination with final gathering to increase photorealism in your scenes. Used in the correct way, final gathering can create stunning, photorealistic lighting in a fraction of the render time needed for global illumination alone."

So, after these interesting statements from XSI Wikipedia, let's see how all of this works using, first of all, a simple scene. Let's start by opening the "FG_Rig scene", which is included with this tutorial. The scene is really simple: a box-shaped room with a sphere in it, and a larger hemisphere surrounding everything. There's a spotlight casting light from outside the room (which has a window open on its east wall to let light enter into the room).

1. In Fig.01 you can see how the scene looks, and there's also a render region showing a dark room with a sphere, and some very dark shadows.

2. A pure white "Constant" material was assigned to the huge hemisphere surrounding
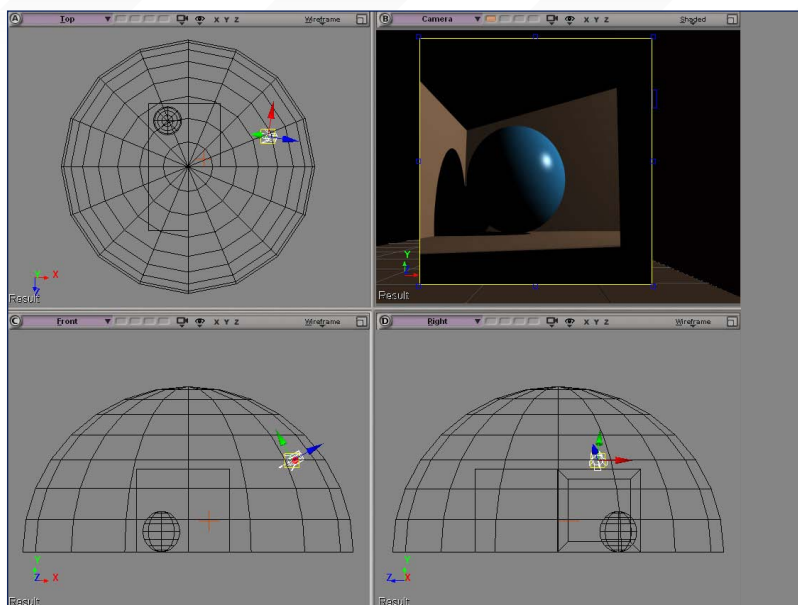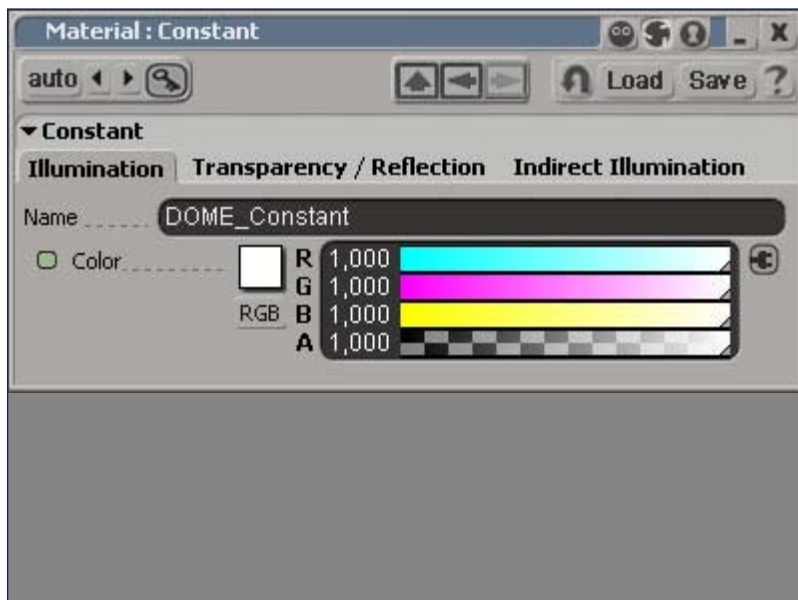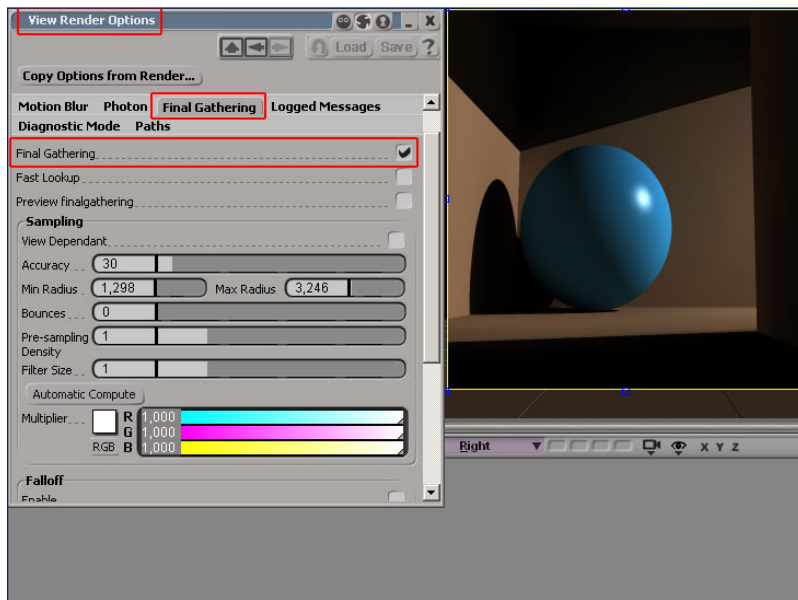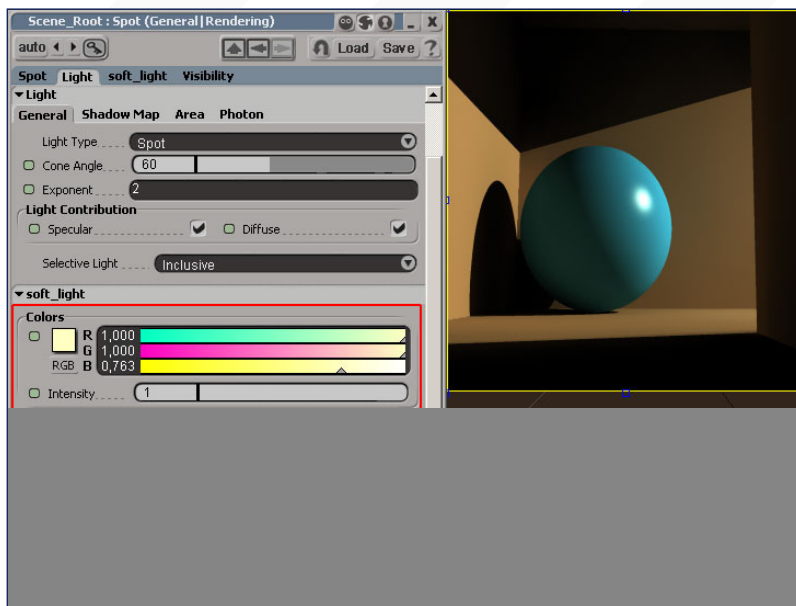
Fig 01

Fig 02

Fig 03

Fig 04

the whole scene (Fig.02), but as of now it does not affect the scene lighting in any way. In fact, the spotlight remains the only light source in the scene.

3. If we go into the Region render property page (Final Gathering tab) and we turn the Final Gathering option "on", then something starts to change (Fig.03). The scene is still too dark, so we need to manage the Final Gathering parameters to let more light rays bounce around in the scene, from one object to another.

4. First of all, let's change the spotlight parameters: set its Color to bright yellow (remembering that natural light is never pure white), and its Intensity to 1 (Fig.04).
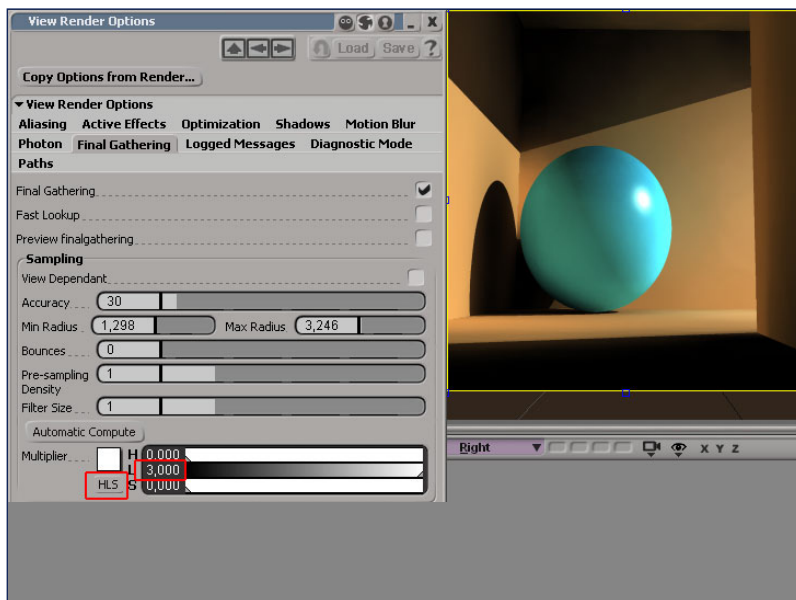
Fig 05

5. Go back to the Region property page, and in the Final Gathering tab change the Multiplier colour mode to HLS (just click on RGB button and it will change to HLS). Now we can set the L (Light) value of the Multiplier to a higher value, such as 3. Render the scene again and you should have something similar to Fig.05. The scene is now much brighter than before, and we can see some light bouncing into the darker corners of the room.
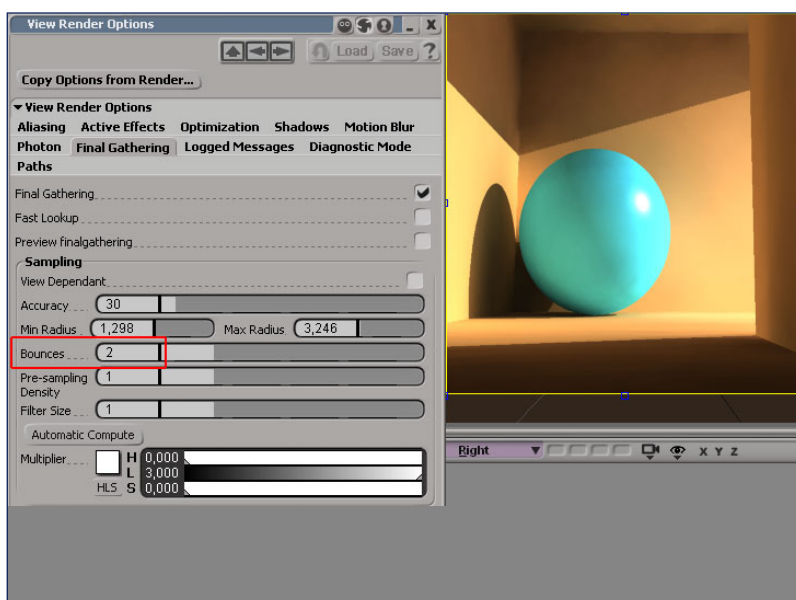
Fig 06

6. We need some more bouncing light now, so simply increase the "Bounce" value to 2 (Fig.06), and then render again.

7. Now we have brighter lighting in the scene, but we also have some artifact problems. Simply increase the "Accuracy" value to 100 (Fig.07), and then render again. It is much better now, but as you have probably noticed, the render time has increased somewhat. The higher the quality of your image; the higher the render time will be.
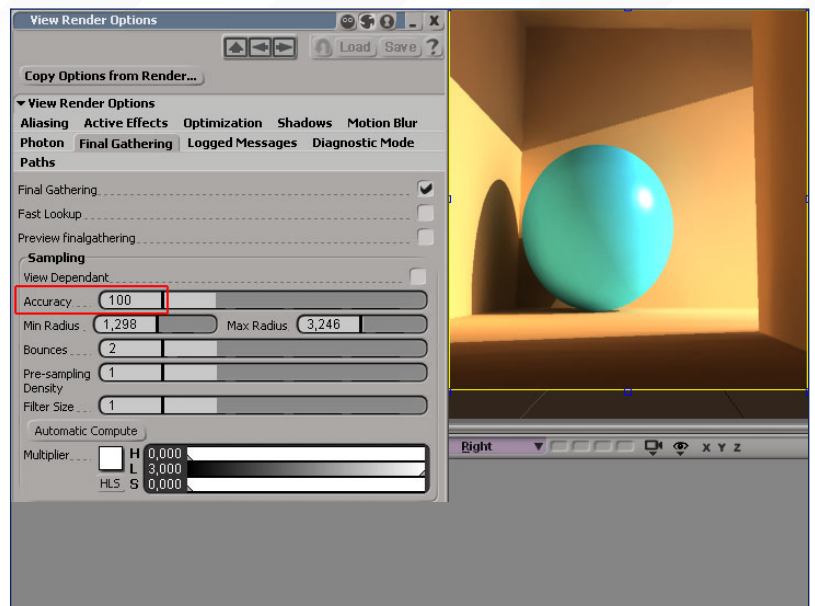
8. In Fig.08 you can see some more tools which you can use to achieve better results, keeping an eye on the render time. The "Preview Final Gathering" option gives you an idea of what's happening during the computation of the Final Gathering points. This is a sort of 'preview', in order to spot any major problems before seeing the final, rendered image. This may come in handy if there is a major problem, for example if there is no light in the scene at all, or maybe it's too dark, or too bright. The "Automatic Compute" button automatically sets the values of "Min Radius" and "Max Radius", by evaluating your scene and object size and choosing the best compromise. You should use this as a starting point, and then change these values manually if you are having problems with the Final Gathering quality. In the Final Gathering Map tab, you can set the Map File option to "Generate FG points only if file doesn't exist" mode, to save render time when you are making minor changes to the parameters. For bigger changes, you need to set it back to default, because XSI needs to recalculate the Final Gathering solution from scratch. Please note that the Accuracy was set higher (300) for the final rendering.
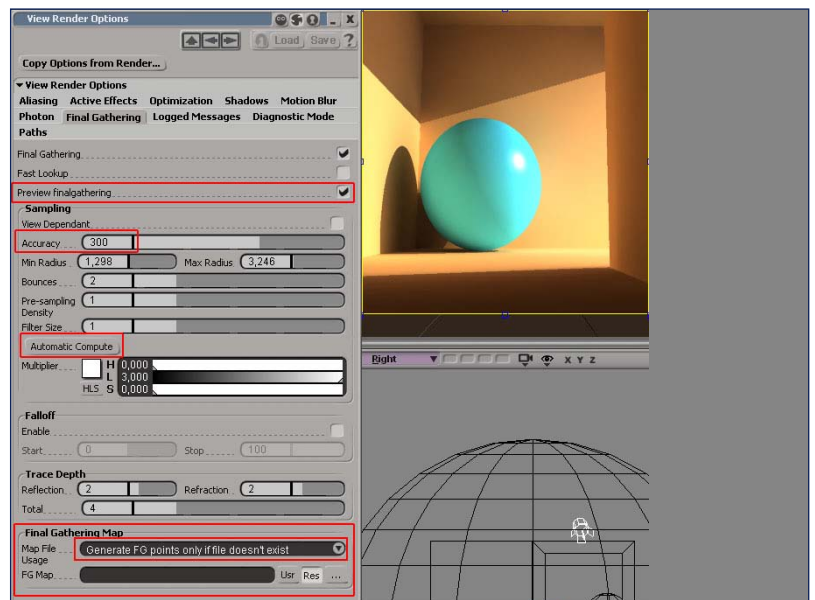
9. Now let's have a look at Image Based Lighting. To start using this, you just need an HDRI map file (there's one included with this tutorial). Open the "HDRI_Rig" scene and have a look at it. As usual, we'll start from a simple scene and then experiment with the real Tuc-Tuc scene. This scene is composed by a polymesh grid, and a sphere on it. There's a spotlight casting light and shadows in the scene (Fig.09). If you render the scene, you'll see that it's too dark, as the spotlight is not enough to have a realistic lighting effect on the scene.
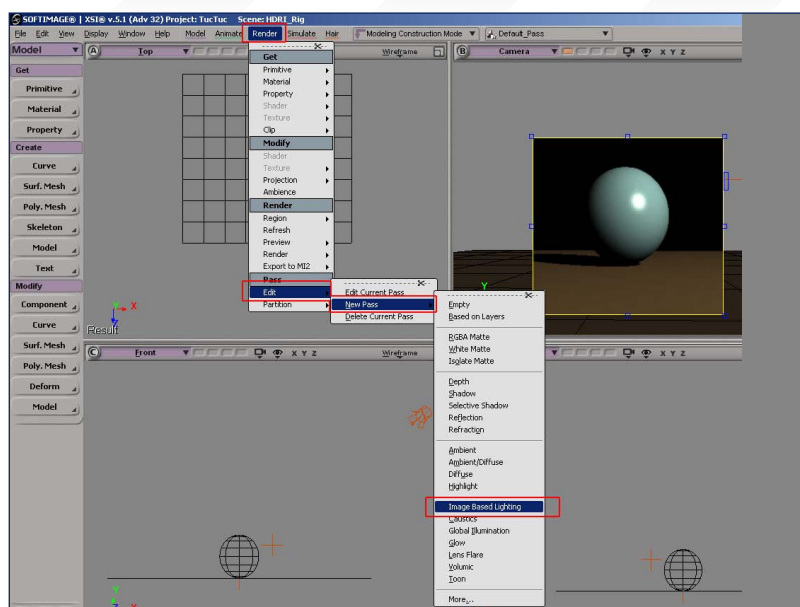
Fig 07

Fig 08

Fig 09
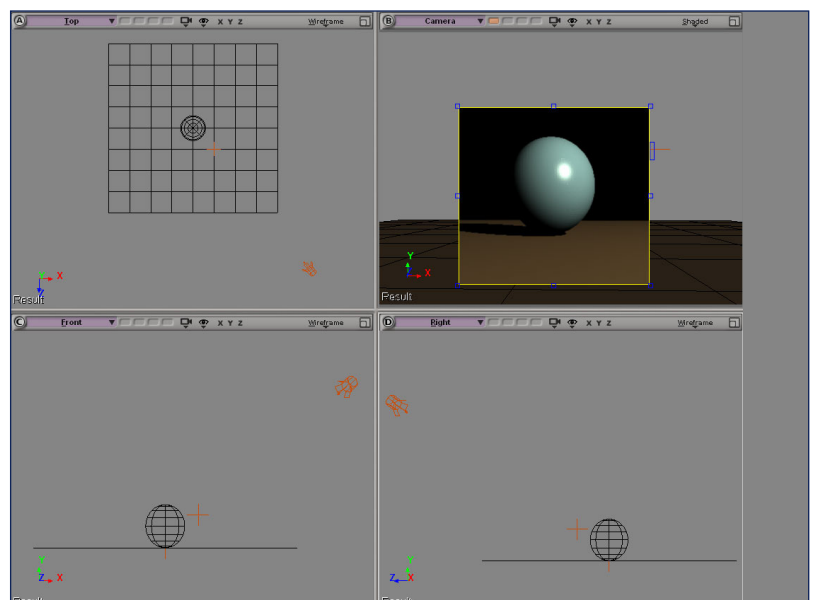
Fig 10

10. Let's now add an IBL pass. Go to: Render > Pass / Edit > New Pass > Image Based Lighting (Fig.10). Answer "No" to any windows that pop up. This will then open the file browser, then you can select the HDRI map file included with the tutorial (probe_backporch_FINAL.hdr).
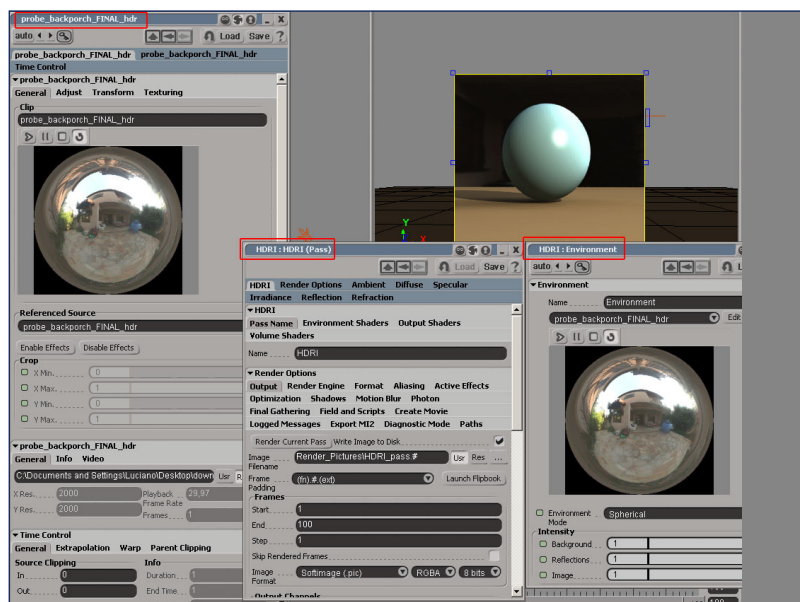

Fig 11

11. This will open up three new windows: "probe_backporch_FINAL_hdr" texture property page, "HDRI Pass" property page, and "HDRI Environment" (Fig.11). If you take a look at the render, you'll notice that something has changed; it is not as dark as before, but it's still not great.
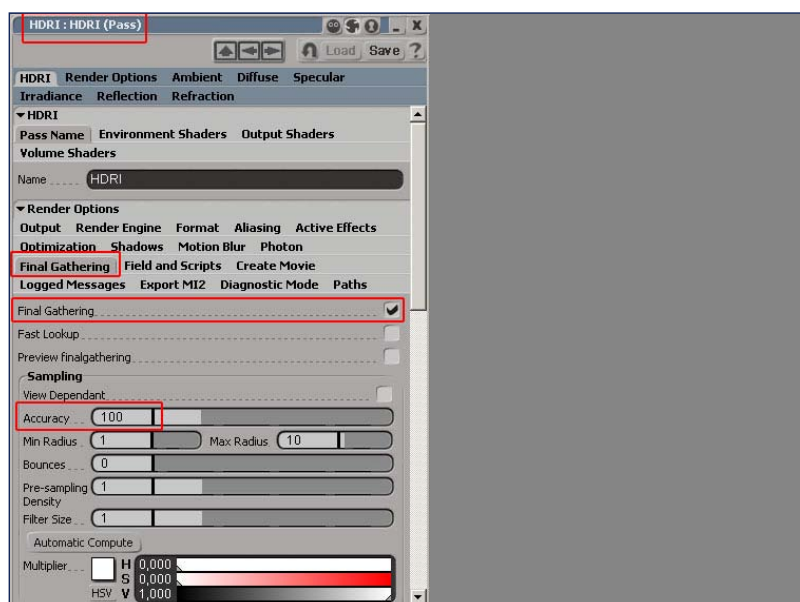

Fig 12

12. Now let's view in detail what the IBL does. It creates an Environment with the HDRI texture map surrounding the whole scene, and it also enables Final Gathering in the rendering options (Fig.12).

13. Let's go back to the HDRI Environment property page (Fig.13). In the "Environment" mode you can set the shape of the HDRI map (spherical, in this case). The "Intensity" tab is very important, because it allows you to set the quantity of lighting coming out from the HDRI map.
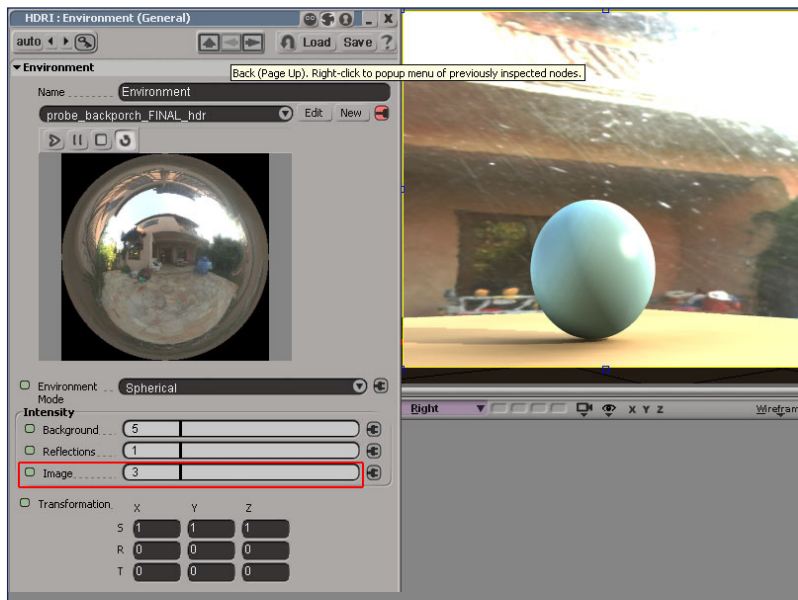
Fig 13
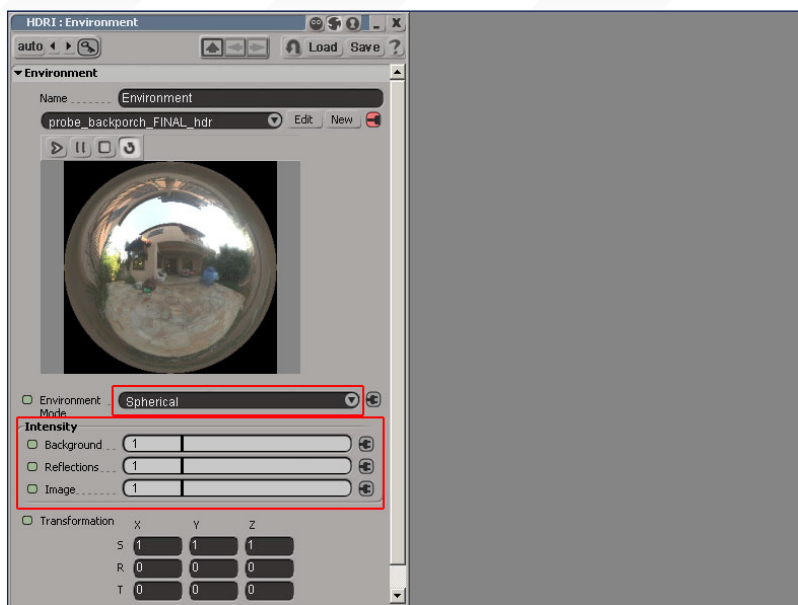
14. The "Background" value lets you set the quantity of visibility for the HDRI texture in the background of the scene (Fig.14).

Fig 14
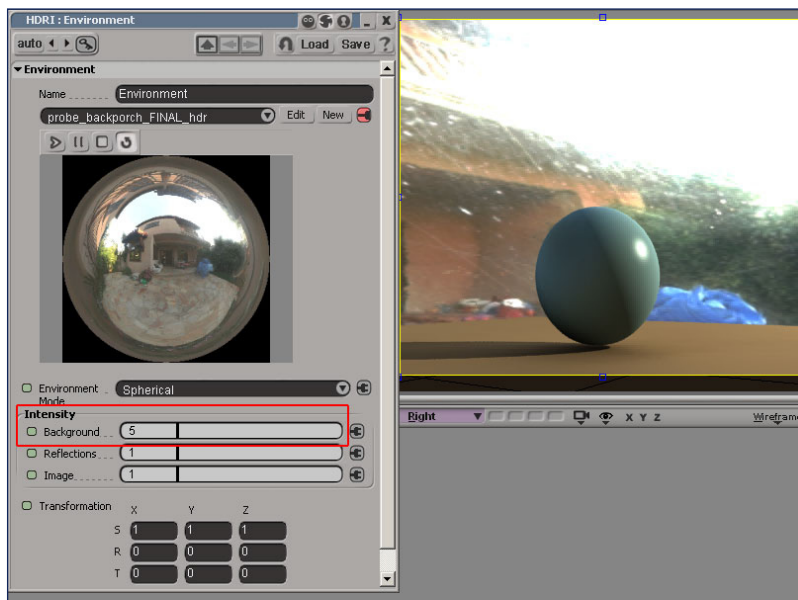
15. The "Image" parameter is used to set the quantity of light coming out from the HDRI texture (Fig.15).
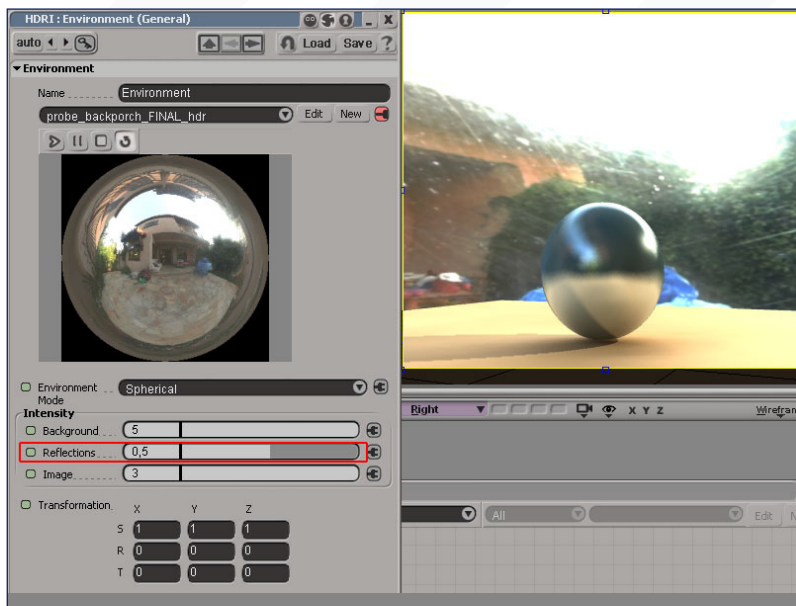
Fig 15

Fig 16

16. The "Reflections" value is used to set the quantity of influence that the HDRI has on the reflections in the scene (Fig.16).
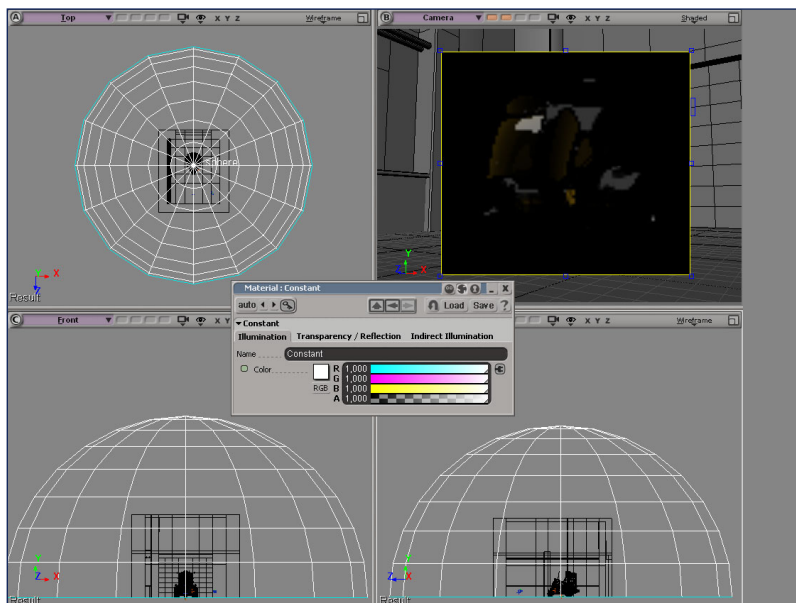

Fig 17

17. Now we can try to use HDRI lighting in our Tuc-Tuc scene. Open it up and create a dome hemisphere around the whole scene. Assign a pure white "Constant" material to it, and delete every other light source (like spotlights, omnis, default lights, etc.) (Fig.17).
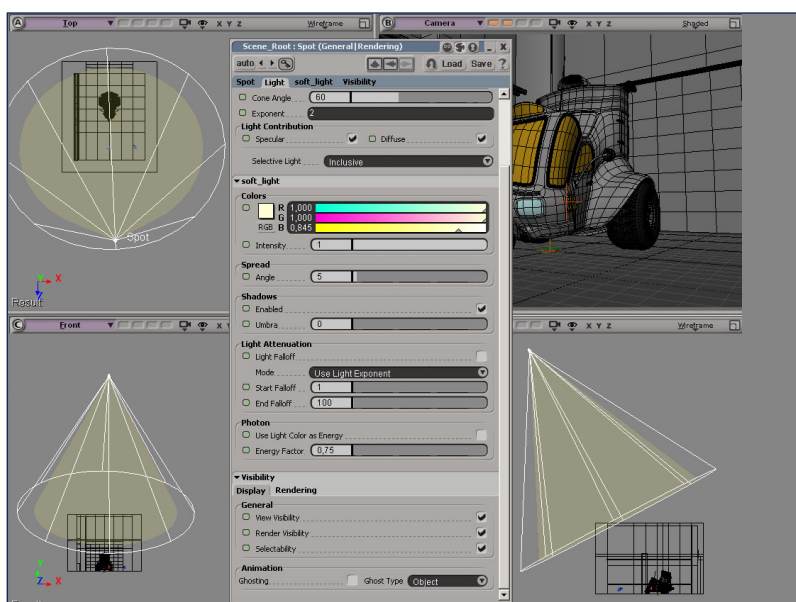

Fig 18

18. Create a new Spot Light and position it as shown in Fig.18. Also, copy its parameters from the property page, as shown in the middle of Fig.18.

Fig 19

19. Create a new IBL Pass, just as we have done earlier on, in step 10 of this tutorial. Open the HDRI Environment property page and set the "Image" value to 3. Also, if the map is too dark in the background, then pump up the Background value to something like 5 (Fig.19).
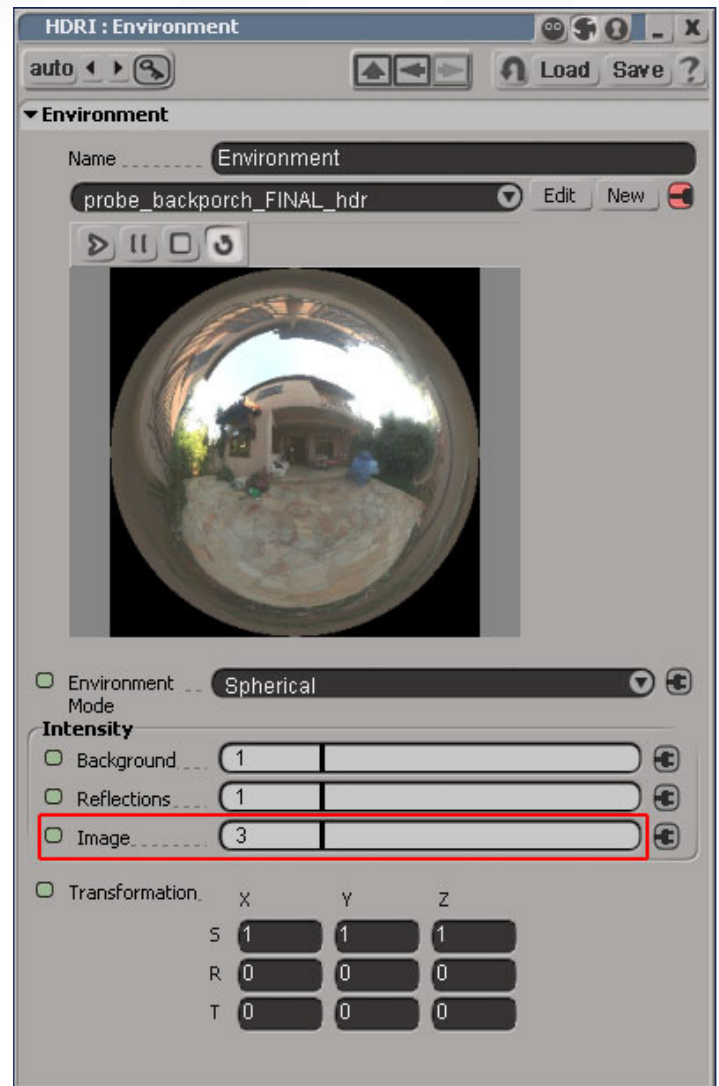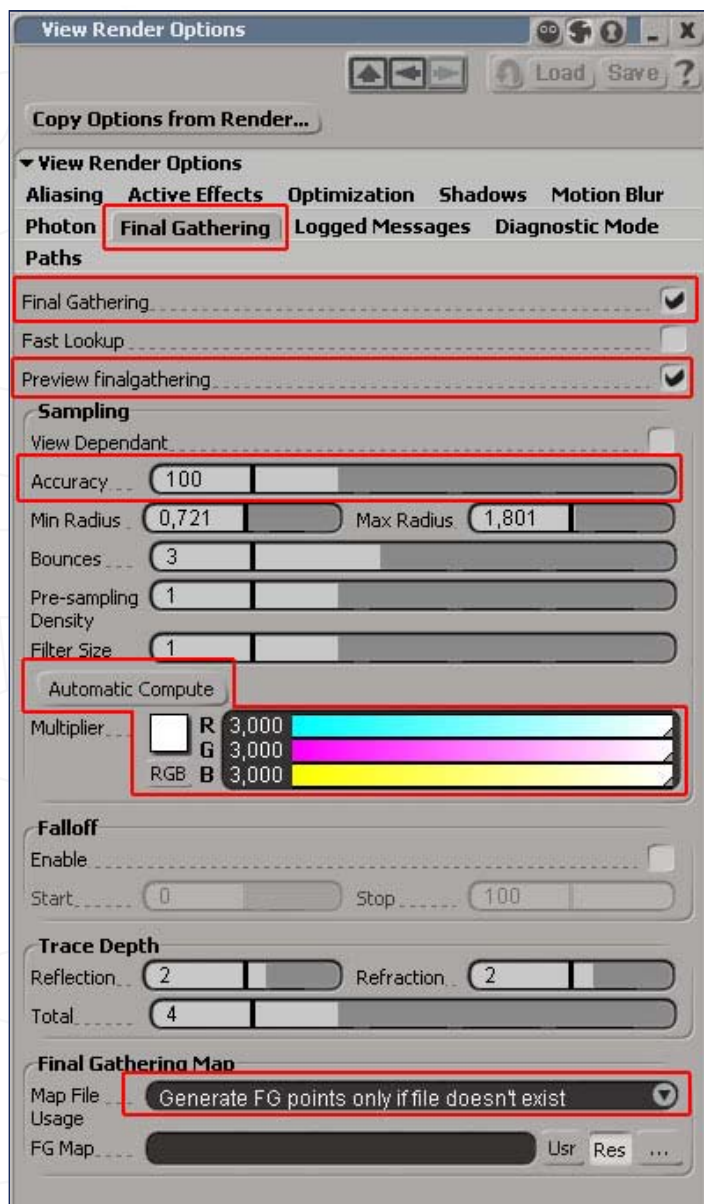

Fig 20

20. Go to the Final Gathering tab in the Render property page, and copy the parameters shown in Fig.20. Enable "Preview Final Gathering"; set the Accuracy to 100 (or more, depending upon the results you get); hit the "Automatic Compute" button. If you need to, you can manually change the Min Radius and Max Radius values later. Let the Final Gathering calculate once, and then enable the Generate Final Gathering points, only if the file doesn't exist. Remember that, if you need to make major changes to the Final Gathering solution, you should set this option back to its default, or you won't notice any changes in the renderings.

Here you can see some renders from different points of view. Next month, we'll start working on advanced rendering options, tools and effects...

Tuc-Tuc

Originally Designed & Modelled by:

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Tutorial by:

Luciano Iurino

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